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SITE INSPECTION - ANALYTICAL RESULTS REPORT **Durango Lead Smelter**

Durango, Colorado

CERCLIS ID# CO0001399633

EPA Contract No. 68-W5-0031 TDD No. 9602-0001

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ANALYTICAL RESULTS REPORT for FOCUSED SITE INSPECTION

Durango Lead Smelter Durango, La Plata County, Colorado

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1.0 INTRODUCTION

This Analytical Results Report (ARR) of the Durango Lead Smelter site in Durango, La Plata County,

Colorado (CERCLIS ID # CO0001399633), has been prepared to satisfy the requirements of Technical

Direction Document (TDD) No. 9602-0001 issued to URS Operating Services, Inc. (UOS) on February

7, 1996, and amended by TDD No. 9602-0001A on February 23, 1996, by the Region VIII office of the

U.S. Environmental Protection Agency (EPA). Field work at the Durango Lead Smelter site was

conducted during the week of April 8 through 12, 1996, and followed the focused Site Inspection (SI)

format (U.S. Environmental Protection Agency (EPA) 1992; EPA 1993). Field sampling activities were

performed in conjunction with the sampling event for the Durango Copper Smelter site (CERCLIS ID#

CO0001399930). A separate Field Sampling Plan and ARR were prepared for the Durango Copper

Smelter site.

Field activities were conducted by UOS and followed the applicable UOS Technical Standard Operating

Procedures (TSOPs) (URS Operating Services, Inc. (UOS) 1995). Field activities specifically included

collecting sixteen environmental samples comprised of five surface water, and five sediment samples, and

three residential soil samples, plus three field Quality Assurance/Quality Control (QA/QC) samples (in

addition to the laboratory matrix spike/matrix spike duplicate (MS/MSD)) (Table 1).

The samples were shipped via Federal Express to contract laboratory program (CLP), routine analytical

services (RAS) laboratories. Samples that were analyzed for volatile organic compounds (VOCs),

semivolatile organic compounds (SVOCs), and pesticides/PCBs were sent to Industrial & Environmental

Analysts of Whippany, New Jersey. Samples analyzed for total metals were sent to SVL Analytical of

Kellog, Idaho. Samples that were analyzed for total organic carbon (TOC) and hardness were sent to

HydroLogic Laboratories, Inc. of Brighton, Colorado. This ARR is intended to be used in conjunction

with the Durango Lead Smelter Field Sampling Plan (FSP) (UOS 1996a) and the Durango Lead Smelter

Sampling Activities Report (SAR) (UOS 1996c) (Appendix A).

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2.0 OBJECTIVES

The purpose of this focused SI was to gather data pertinent to the evaluation of the Durango Lead Smelter

site with regard to the EPA's Hazard Ranking System (HRS) criteria. The specific objectives of this

focused SI were to:

Acquire and utilize non-sampling data (i.e., existing reports, analytical data, or physical

measurements) documenting past releases from the site source areas;

Identify and delineate receptor targets for the surface water pathway;

Document potential releases of site contaminants to targets along the surface water pathway; and

Determine resident populations subject to airborne contamination and collect soil samples.

3.0 BACKGROUND INFORMATION

3.1 SITE LOCATION AND DESCRIPTION

The Durango Lead Smelter site is located in the southeast quarter of Section 30, T. 35 N., R.

9 W., of the Durango West Quadrangle, La Plata County, Colorado. The site is located

southwest of Durango, along the west bank of the Animas River (Figures 1 and 2). The

approximate site coordinates are 37° 16' 03.00" N. latitude and 107° 53' 00.00" W. longitude

(U.S. Geological Survey (USGS) 1963b).

3.2 SITE HISTORY AND PREVIOUS WORK

The Durango Lead Smelter site history extends from 1882 through approximately 1935. The San

Juan Smelting and Mining Company, originally from Silverton, Colorado, began operation at the

site in 1882. In 1887, it was reported to have smelted over \$1 million worth of silver, lead,

gold, and copper, and was the largest smelter in the San Juan Mountains. At the turn of the

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century, all the major smelting corporations in Durango merged to become the American

Smelting and Refining Company at this location. The American Smelting and Refining Company

closed in the mid 1930s, and was dismantled in approximately 1942 (Smith 1980).

The United States Vanadium Corporation built a uranium processing mill at the site of the former

lead smelter operation in 1942. The uranium mill operation and the associated tailings at this

location were the focus of a U.S. Department of Energy (DOE) Uranium Mill Tailings Remedial

Action (UMTRA) that was conducted to clean up the uranium mill tailings deposited along the

Animas River. During the removal of those tailings (from 1986 to 1991), the DOE also removed

the remaining lead smelter stack, building materials and rubble associated with the former lead

smelter. The slag, a by-product of the lead smelter operation, was left at the site because it was

not within the scope of responsibility of the DOE under the UMTRA project. The slag was

graded and the site area was covered with clean backfill and topsoil and vegetated. The west

bank of the Animas River was riprapped to minimize erosion (U.S. Department of Energy (DOE)

1995). The UMTRA activity and associated remediation, while not being the subject of this

focused SI, have played a major role in the redistribution of lead slag wastes.

The Standard Smelting Company operated from 1892 through 1911, approximately three-quarters

of a mile downstream of the Durango Lead Smelter site (Figure 2) (Smith 1980). This site is the

focus of a site investigation by UOS for the EPA under TDD 9602-0007, the Durango Copper

Smelter, CERCLIS ID# CO0001399930.

3.3 SITE CHARACTERISTICS

3.3.1 Physical Geography

The Durango Lead Smelter site is located along the west bank of the Animas River. The

site is located approximately 6,520 feet above mean sea level in La Plata County (USGS

1963a). The Durango Lead Smelter site is approximately 15 acres in size, or 653,400

square feet (DOE 1995; UOS 1996a). Site topography is generally flat, with a slight

southeastward slope for drainage toward the Animas River. The slag was graded during

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the UMTRA project before backfill was brought in (Colorado Department of Public

Health and the Environment (CDPHE) 1996; UOS 1996a). The site area is situated in

a transitional area between the Southern Rocky Mountain Physiographic Province and the

Colorado Plateau Province (Bureau of Reclamation (BOR) 1981).

3.3.2 Geology

The former lead smelter area is underlain by dark gray to black Mancos Shale, which is

more than 1,700 feet thick. The Mancos Shale is truncated by the Smelter Mountain

fault south of the site area (Figure 2). The Point Lookout Sandstone and Menefee

Formations outcrop south of the site area and south of the Smelter Mountain fault. At

the site area along the base of Smelter Mountain, the Mancos Shale is directly overlain

by a layer of colluvium up to 25 feet thick. The colluvium consists of poorly sorted,

silty soil from Smelter Mountain. Along Lightner Creek and the Animas River, deposits

of river-laid sand and gravel up to 15 feet thick occur over the shale bedrock and under

the colluvium (DOE 1995).

3.3.3 <u>Hydrogeology</u>

Hydrostratigraphic units at the lead smelter site include the consolidated bedrock unit

overlain by unconsolidated surficial deposits. Together the surficial hydrostratigraphic

units (alluvium and colluvium) and the bedrock unit (the uppermost few feet of

weathered, fractured Mancos Shale) directly under the surficial deposits comprise the

uppermost aquifer in the site area. Groundwater occurs in a shallow alluvial aquifer

overlying bedrock at the former lead smelter site. Groundwater at the site moves

predominantly through the alluvium overlying the low-permeability Mancos Shale

bedrock and discharges into the Animas River to the east (DOE 1995).

In gravels above the bedrock, the hydraulic conductivity is estimated to be 7 x 10³

centimeters per second (cm/sec). In the colluvium near the base of Smelter Mountain,

recharge is primarily by runoff from the mountain and by infiltrating precipitation. Sand

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and gravel deposits receive recharge from Lightner Creek and the Animas River (DOE 1995).

3.3.4 Hydrology

Site topography indicates that surface water drainage via overland flow is directed to the south and east towards the Animas River (USGS 1963b; UOS 1996c). The annual mean discharge rate of the Animas River at Durango is 822 cubic feet per second (cfs); the highest annual mean discharge rate is 1,366 cfs (water years 1898-1994). The discharge rate is recorded at the USGS Durango gauging station approximately one mile upstream

of the site (USGS 1994). Upstream of the site area, the Animas River has a drainage

area of approximately 770 square miles (DOE 1995). The site lies within the Animas

River 100-year flood plain (BOR 1981).

3.3.5 Meteorology

The Durango Lead Smelter site is located in a semiarid climate zone. The mean annual precipitation as totaled from the University of Delaware (UD) database is 12.83 inches. The net annual precipitation as calculated from precipitation and evapotranspiration data obtained from the UD database is 1.61 inches (University of Delaware, Center for Climate Research, Department of Geography 1986). The 2-year, 24-hour rainfall event

for this area is 1.5 inches (Dunne, Thomas and Luna B. Leopold 1978).

3.3.6 Existing Source Data

The buried slag that remains along the west bank of the Animas River is approximately 25 feet thick and covers approximately 15 acres. The volume of slag has been estimated

at approximately 200,000 cubic yards of material (DOE 1995).

In 1989, 11 slag samples were collected by MK-Ferguson Company and sent to Analytica

Labs in Albuquerque, New Mexico, for EP Toxicity and Total Metals analysis. The slag

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samples were collected from the existing slag (a by-product of the lead smelter operation) at the location that was reclaimed under the UMTRA project. The slag material was not the responsibility of the DOE under the UMTRA Project so the slag material was graded and left during the reclamation of the UMTRA site (DOE 1989).

Surface samples and composite samples (as much as 12 feet below ground surface (bgs)) were randomly collected through visual identification of different slag types. Samples were analyzed according to EPA protocols published in SW-846 Test Methods for Evaluating Solid Waste, Third Edition, 1986. Five samples indicated concentrations of lead (EP toxicity extract) that exceeded the EP Toxicity maximum concentration action level of 5 parts per million (ppm) (highest concentration at 58 ppm) (DOE 1989). Review of the total metals data indicates that some analytes are above the ranges and/or averages, for element concentrations in soils in the conterminous United States. The following table displays the ranges and/or average and the highest concentration of analytes that exceeded these ranges (USGS 1984; DOE 1989).

Highest Concentrations of Analytes in Slag

Analytes	Average or Range (mg/kg)	Highest Concentration in Slag (mg/kg)
Antimony	0.5	70
Arsenic	5	480
Barium	500	8,100
Cobalt	10	160
Copper	20	5,400
Lead	10	25,000
Mercury	0.01	0.5
Molybdenum	2.5	150
Uranium	1	233
Vanadium	100	910

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4.0 ANALYTICAL DATA

> 4.1 DATA VALIDATION AND INTERPRETATION

The sample data collected during this focused SI was reviewed using the HRS guidelines for

analytical interpretation (Office of the Federal Register 1990). As reported in the analytical

results in Tables 2 through 6, elevated concentrations of contaminants, as noted by a star (*), are

determined by sample concentrations based on the following:

If the sample concentrations are greater than or equal to three times the highest

background sample concentrations and greater than or equal to five times the blank

concentrations and greater than or equal to the sample quantitation limit (SQL); and

If not detected in background or blank samples, the sample concentrations are greater

than or equal to the SQL.

All data analyzed by the CLP RAS laboratories were validated by TechLaw, Inc. All data are

acceptable for use as qualified in the data validation report. The complete data validation report,

laboratory forms, and SQL calculations are located in Appendix D.

5.0 SURFACE WATER AND SEDIMENT PATHWAY

> 5.1 SURFACE WATER AND SEDIMENT SAMPLE LOCATIONS

Global positioning system (GPS) data points were collected in the field to determine exact

geographic sample locations. GPS data are located in the UOS SAR (Appendix A). Please refer

to Figure 2 for sample locations.

The farthest downgradient samples on the Animas River were collected first. Samples were

collected during low flow of the Animas River. The discharge rate of the Animas River during

sampling was approximately 480 cubic feet per second (cfs) as recorded at the Durango USGS

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Station (UOS 1996c). The annual mean discharge rate of the Animas River at Durango is 822

cfs (USGS 1994).

Samples DL-SW/SE-4 were collected along the west bank of the Animas River, approximately

one and one-half miles downstream of the probable point of entry (PPE) and upstream of the

former copper smelter site, downstream of the Santa Rita Bridge (Photo 1). Duplicate surface

water sample DL-SW-5 was collected at this location.

Samples DL-SW/SE-3 were collected from the east bank of the Animas River approximately 0.85

miles downstream of the PPE, and approximately 0.15 miles upstream of the Santa Rita Bridge

near the proposed Bureau of Reclamation pumping station (Photo 2). This location is at the south

end of a city park and several people were observed fishing in this area.

The location of samples DL-SW/SE-2 was based on the location of the slag outcropping from the

former Durango Lead Smelter site along the Animas River (Photo 3). The samples were

collected from the PPE on the west bank of the river approximately three-quarters of a mile

downstream of the Lightner Creek bridge, and just upstream of the Animas River kayak course.

Slag was observed slumping into the Animas River at this location. Sediment samples were

collected from among the cobbles and rocks along the bank.

Samples DL-SW/SE-1 were collected from the east bank of the Animas River, approximately

one-quarter of a mile upstream of the Highway 160 bridge over the Animas River, just north of

the Red Lion Inn (Photo 4). These samples were collected to identify background conditions in

the Animas River. The MS/MSD volume was also collected at this sample location.

Samples LC-SW/SE-1 were collected from the north side of Lightner Creek just before it passes

under Highway 160 (Photo 5). Lightner Creek at this location was approximately twenty feet

wide, five feet deep, and flowing swiftly. These samples were collected to determine the

conditions present upstream in Lightner Creek before it enters the Animas River.

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5.2 SURFACE WATER AND SEDIMENT ANALYTICAL RESULTS

The surface water and sediment sample analytical results are reported in Tables 2 through 6.

Laboratory data and validation comments may be found in Appendix D.

There were no elevated detections of organic compounds in surface water or sediment samples.

Between one and seven semivolatile tentatively identified compounds (TICs) were detected in

DL-SW-1, LC-SW-01, DL-SW-2, primarily consisting of unknown alcohols and unknown

amides. In sediment samples DL-SE-1, LC-SE-1, and DL-SE-2, between four to six semivolatile

TICs were identified, comprising of unknown organic acids and unknown condensation products.

There were no elevated detections of inorganic compounds in surface water samples. In sediment

sample DL-SE-2 (PPE), elevated concentrations of inorganic compounds cadmium (498 ppm),

vanadium (357 ppm), and zinc (28,500 ppm) were detected. The Superfund Chemical Data

Matrix (SCDM) does not provide hazardous substance benchmarks for sediments; however the

associated surface water food chain reference dose screening concentration (RDSC) benchmarks

for cadmium, vanadium, and zinc are 0.68 ppm, 9.5 ppm, and 410 ppm, respectively (EPA

1995b).

Because there were no surface water detections at elevated concentrations, ambient water quality

criteria (AWQC) benchmarks did not need to be readjusted with sample specific TOC and

hardness values; hence this data is not reported in tables 2 through 6. TOC and hardness data

can be found in Appendix D.

5.3 SURFACE WATER/SEDIMENT TARGETS

Municipal drinking water for the city of Durango is supplied from surface water which is

collected from the Florida and Animas Rivers and then is mixed and supplied to the entire

population of Durango. The main surface water intake for the municipal supply is located along

the Florida River, a separate watershed from the Animas River which flows to the south

approximately five miles to the east of the site (Figure 1). The municipal surface water intake

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on the Animas River, at 29th Street in Durango, is located approximately two miles upstream of

the site (Figure 1). Water from the Animas River is used primarily when there is a high demand

on the municipal water supply, generally during the summer months (Durango Public Works

1996).

The Animas River is a recreational fishery (Colorado Division of Wildlife (CDOW) 1996). The

Colorado Department of Wildlife stocks the Animas River with Brown Trout, Rainbow Trout,

and Cutthroat Trout. Native species in the Animas River include the Blue Head Sucker (which

is most abundant), Flannel Mouth Sucker, Mottled Sculpin, and Speckled Dace. Occasionally

the non-native White Sucker is identified in the Animas. The stretch of the Animas from

Lightner Creek (one mile north of the site area) to Purple Cliffs (approximately two and one-half

miles downstream of the Durango Lead Smelter site) was used by approximately 6,200

fisherpersons from April 1990 through August 1990. The fishing limit is two fish, 16 inches or

longer (artificial flies and lures only). The catch rate on this stretch of the Animas is 0.75 fish

per hour or 1.2 fish per fisher per trip, or approximately 3,000 pounds per year (based on an

estimate of 0.4 pounds per fish greater than or equal to a 16-inch fish) (CDOW 1996).

Fisherpeople were observed during the sampling activities (UOS 1996c).

The Animas River, a recreational water body, is used as a kayak course adjacent to the site area

(UOS 1996a). There are no private drinking water intakes identified along the Animas River

downstream of the site (Durango Public Works 1996). Riverine wetlands were identified during

site reconnaissance activities on February 20 and 21, 1996, and during site sampling activities

by UOS personnel (UOS 1996a; UOS 1996c). Willow, cottonwood, and sporadic cattail growth

was noted along the banks of the river during site sampling activities (UOS 1996c). Surface

water and sediment sample locations were collected from areas where wetlands were observed.

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6.0 RESIDENTIAL SOIL EXPOSURE PATHWAY

6.1 RESIDENTIAL SOIL SAMPLE LOCATIONS

Residential soil samples were collected from three properties for this focused SI. Please refer

to Figure 2, Table 1, and the UOS Sampling Activities Report for exact sample locations and

rationale (Appendix A, SAR). GPS data points were collected in the field to determine exact

geographic sample locations and are listed in the UOS SAR (Appendix A). Signed access

agreements were obtained from all property owners before samples were collected. Samples were

taken from areas on the properties that the field personnel or residents believed could potentially

be impacted by airborne contaminants derived from the site.

Three soil samples were collected on April 10, 1996, from various residences in and around

Durango. Sample DL-SO-1 was collected from the back yard of the Camillia Potter residence

at 118-116 County Road 206, approximately two miles north of the site, behind Smelter ...

Mountain (Figure 2). The sample was collected approximately fifty feet behind the main house

and thirty feet north of Lightner Creek (Photo 6). This sample was collected to ascertain

background soil conditions.

Sample DL-SO-2 was collected from the westernmost side of the Canyon Club Mobil Home

trailer park located approximately 1,600 feet southeast (downwind) across the Animas River and

Highway 550 from the former smelter site. The sample was collected from the west side of the

yard of Trailer #8 (Photo 7). The entire trailer park is encircled by a chain link fence, with

individual properties readily accessible to those inside the trailer park. There are approximately

65 people residing in the Canyon Club Mobile Home Park.

Soil sample DL-SO-3 was collected from the southwest corner of the Lauren Hartley property

at 277 E. Third Avenue. This property is located approximately 1,000 feet west (downwind) of

the former lead smelter across the Animas River and Highway 550 (Photo 8). There are

approximately four people residing at 277 E. Third Avenue.

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6.2 RESIDENTIAL SOIL ANALYTICAL RESULTS

In residential soil sample DL-SO-2 (trailer park), lead (181 ppm), and silver (1.7 ppm) were detected at elevated concentrations. In residential soil sample DL-SO-3 (Hartley residence), copper (91.5 ppm), lead (302 ppm), manganese (1,310 ppm), and silver (2.1 ppm) were detected at elevated concentrations. The SCDM provides soil RDSCs for two of the four elevated compounds, manganese (390 ppm) and silver (390 ppm) (EPA 1995b).

6.3 RESIDENTIAL SOIL TARGETS

The elevated concentrations of inorganic compounds detected in the two soil samples collected from residences downwind of the site could be a result of historic airborne contamination from the Durango Lead Smelter site. According to an account of the concentrations of chemical elements in soils and other surficial materials of the conterminous United States, lead is typically found at an average 10 ppm, copper is typically found at an average of 20 ppm, and manganese is typically found at an average of 850 ppm (USGS 1984).

The Durango Lead Smelter site is owned by the state of Colorado. The UMTRA was conducted by the DOE. The source area (slag) was covered with a minimum of 18 to 24 inches of backfill and another 6 inches of topsoil during the UMTRA. Slag outcroppings were identified during the UOS site reconnaissance along the west bank of the Animas River (UOS 1996a). Movement of the slag by the DOE and the slag outcroppings that are currently present could account for concentrations of contaminants in nearby residential soils. Currently, the state of Colorado plans to sell the southern portion of the site (the location of the raffinate ponds) to the Bureau of Reclamation for the installation of a pumping plant as a part of the Animas/La Plata Wastewater Management Plan. The northern portion of the property (the former location of the uranium mill tailings and current location of buried lead smelter slag) is slated for purchase by the city of Durango (CDPHE 1996).

Access to the site is restricted by fencing and locking gates; however, while the field sampling crew was obtaining GPS data samples DL-SW/SE-2 (on-site PPE sample), approximately six to

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eight people were seen passing mountain bikes over the gates and riding over the site area (UOS

1996a; UOS 1996c). Approximately 4,143 people reside within one mile of the site, of whom

approximately 1,036 reside within one-quarter of a mile (U.S. Department of Commerce

(USDOC) 1990). Other potential targets include federally listed threatened or endangered species

that potentially may be present in La Plata County. These species include the Black-footed Ferret

(endangered), Knowlton's Cactus (endangered), American Peregrine Falcon (endangered), Bald

Eagle (threatened), Eskimo Curlew (endangered), and the Southwestern Willow Flycatcher

(endangered). Critical habitat for the Mexican Spotted Owl (threatened) occurs in La Plata

County (U.S. Fish and Wildlife Service (USFWS) 1996).

7.0 <u>ADDITIONAL PATHWAYS</u>

7.1 AIR PATHWAY

Waste slag from the former smelter operation was buried on site during the DOE UMTRA

project. Slag outcroppings were observed during the UOS site sampling activities (UOS 1996c).

Proximal targets of the site include the total population, 12,430 people, of the city of Durango

which is situated within four miles of the site (USDOC 1990). The nearest residences

(approximately five houses) are located on the east bank of the Animas River, approximately one-

quarter of a mile to the east of the site. The site area has been backfilled with a minimum of 18.

to 24 inches of clean backfill and another 6 inches of topsoil, and vegetated by the DOE during

the UMTRA (CDPHE 1996). The prevailing wind direction is west-northwest down the river

valley (DOE 1995). There are no U.S. Department of the Interior National Wetland Inventory

(NWI) maps available for the Durango area. Cumulative wetlands within a four-mile radius of

the site were estimated by field personnel during the sampling event to be less than 50 acres

(UOS 1996c).

Additional targets within the air pathway include federally listed threatened or endangered species

that potentially may be present in La Plata County. These species include the American

Peregrine Falcon (endangered), Bald Eagle (threatened), Eskimo Curlew (endangered), the

Southwestern Willow Flycatcher (endangered), Black-footed Ferret (endangered), and the

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Knowlton's Cactus (endangered). Critical habitat for the Mexican Spotted Owl (threatened) occurs in La Plata County (USFWS 1996).

7.2 GROUNDWATER PATHWAY

The DOE has documented 20 wells within a two-mile radius of the site, that serve approximately 47 people based on 2.35 persons per household in Durango (DOE 1995; USDOC 1990). The Colorado State Engineers Office has records of 90 household-use-only well permits (that serve approximately 211 people) completed to the alluvium and bedrock within two to four miles of the site (State Engineer's Office 1996; USDOC 1990). While records for these wells exist, UOS attempted to sample the closest of these wells for the Durango Lead Smelter site, only to discover that these residences are all now supplied by municipal water from the Florida and Animas Rivers (Durango Public Works 1996; UOS 1996c). Development and utility policies for the city of Durango currently prohibit the drilling of private wells within the city limits (Durango Public Works 1996).

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8.0 <u>SUMMARY</u>

The Durango Lead Smelter site history extends from 1882 through approximately 1935. The American

Smelting and Refining Company closed in the mid 1930s, and was dismantled in approximately 1942.

The United States Vanadium Corporation built a uranium processing mill at the site of the former lead

smelter operation in 1942. The uranium mill operation and the associated tailings at this location were

the focus of a DOE UMTRA that was conducted to clean up the uranium mill tailings deposited along

the Animas River. The slag, a by-product of the lead smelter operation, was left at the site because it

was not within the scope of responsibility of the DOE under the UMTRA project. The slag was graded

and the site area was covered with clean backfill and topsoil and vegetated.

Field work conducted at the Durango Lead Smelter site during the week of April 8 through 12, 1996,

involved the collection of field samples for laboratory analyses and non-sampling site-specific information.

This information has been used in this report to evaluate the surface water and soil exposure pathways

and associated receptors to determine if the Durango Lead Smelter site potentially impacts human health

or the environment.

Soil samples were collected from three residences, two of which were downwind and within one mile of

the Durango Lead Smelter site. In residential soil sample DL-SO-2 (trailer park), lead (181 ppm) and

silver (1.7 ppm) were detected at elevated concentrations. In residential soil sample DL-SO-3 (Hartley

residence), the following contaminants were detected at elevated concentrations, copper (91.5 ppm), lead

(302 ppm), manganese (1,310 ppm/RDSC of 390 ppm), and silver (2.1 ppm/RDSC of 390 ppm).

Residential soil samples were compared to a biased grab background sample collected from a residence

upwind of site influences. According to an account of the typical concentrations of chemical elements

in soils and other surficial materials of the conterminous United States, average of lead is 10 ppm,

average of copper is 20 ppm, and average of manganese is 850 ppm.

Access to the site is restricted by fencing and locking gates; however, while the field sampling crew was

obtaining GPS data from an on-site sample location, approximately six to eight people were seen passing

mountain bikes over the gates and riding over the site area. Approximately 4,143 people reside within

one mile of the site, of which approximately 1,036 reside within one-quarter of a mile. Other potential

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targets include six federally-listed threatened or endangered species that may be potentially present in La

Plata County. Critical habitat for the Mexican Spotted Owl (threatened) occurs in La Plata County.

There were no elevated detections of inorganic compounds in surface water samples. In the PPE

sediment sample DL-SE-2, elevated concentrations of inorganic compounds cadmium (498 ppm),

vanadium (357 ppm), and zinc (28,500 ppm) were detected. Cadmium and zinc both have the ability to

bioaccumulate and both are above surface water foodchain reference dose concentrations. The SCDM

does not provide benchmarks for sediments. Surface water and sediment samples were collected from

areas that were observed to have wetland vegetation.

Municipal drinking water for the city of Durango is from surface water, primarily collected from a

separate watershed from the Animas River. The municipal surface water intake on the Animas River is

located approximately two miles upstream of the site. The Animas River is a recreational fishery that

is stocked by the Colorado Department of Wildlife, and a recreational water body, which is used as a

kayak course adjacent to the site area. There are no private drinking water intakes identified along the

Animas River downstream of the site.

The DOE has documented 20 wells within a two-mile radius of the site. The Colorado State Engineers

Office has records of 90 household-use-only well permits (that serve approximately 211 people) completed

to the alluvium and bedrock within two to four miles of the site. While records for these wells exist.

UOS attempted to sample the closest of these wells, only to discover that these residences are all now

supplied by municipal water from the Florida and Animas Rivers. Development and utility policies for

the city of Durango currently prohibit the drilling of private wells within the city limits.

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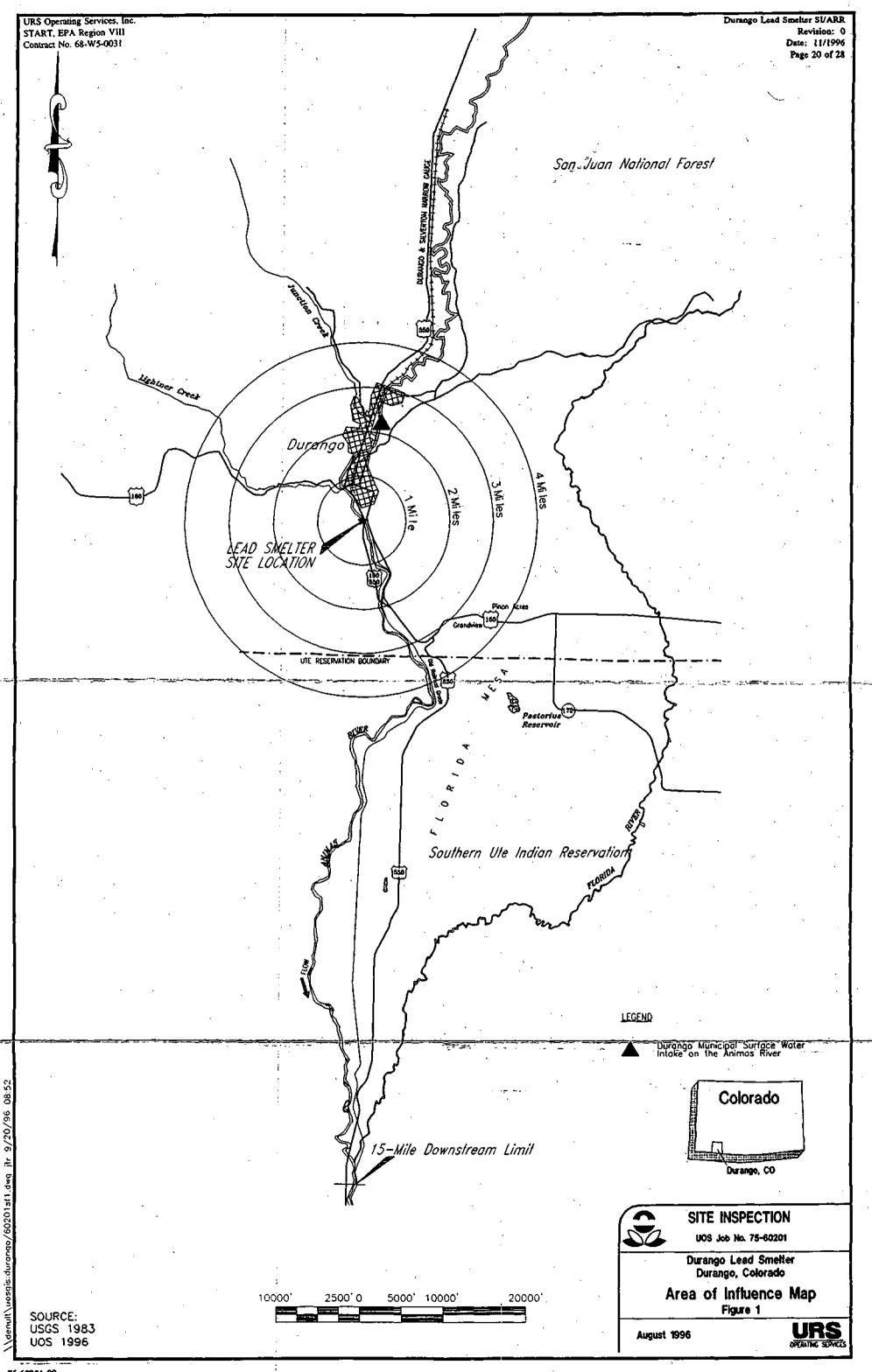
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APPENDIX A Sampling Activities Report

URS OPERATING SERVICES

1099 18TH STREET
SUITE 710

DENVER, COLORADO 80202-1908

TEL: (303) 291-8300 FAX: (303) 291-8296

April 23, 1996

Ms. Pat G. Smith
Site Assessment Manager
U.S. Environmental Protection Agency Region VIII
999 18th Street, Suite 500, Mail Code: EPR-ER
Denver, Colorado 80202-2405

Subject:

START, EPA Region VIII, Contract No. 68-W5-0031, TDD #9602-0001

Site Inspection - Durango Lead Smelter site, Durango, La Plata County, Colorado

Sampling Activities Report

Dear Ms. Smith:

The following pages contain the Sampling Activities Report (SAR) for the Durango Lead Smelter site in Durango, La Plata County, Colorado. This report is prepared in partial fulfillment of TDD #9602-0001 and outlines field sampling activities conducted from April 8-12, 1996.

If you have any comments, please call me at (303) 291-8269.

Very truly yours,

URS CONSULTANTS, INC.

Rachel S. Balgie

Rachel Badger

Project Manager

Eric Sist

Eric Scott

Registered Geologist

Enclosures

cc:

L. Durbin/UOS w/o attachments

File/UOS

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SAMPLING ACTIVITIES REPORT FOR DURANGO LEAD SMELTER SITE DURANGO, LA PLATA COUNTY, COLORADO

INTRODUCTION

The Field Sampling Plan (FSP), Revision 1, for the Durango Lead Smelter site was approved by the EPA Site Assessment Manager, Pat Smith, on April 2, 1996. Field activities were conducted at the Durango Lead Smelter site from April 8 through 12, 1996. The URS Operating Services, Inc. (UOS) field sampling team included Rachel Badger (Project Manager), Kim Edelman (Health and Safety Officer), Mark Rudolph (Sampler), and Eric Scott (Sampler).

SAMPLING ACTIVITIES

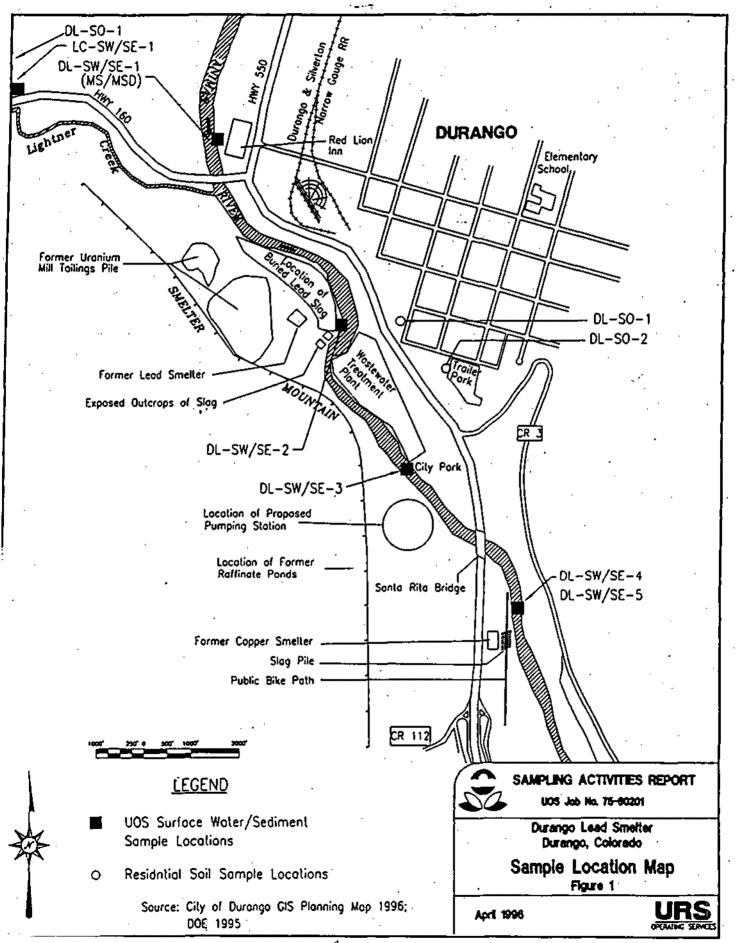
The sampling activities at the Durango Lead Smelter site included the collection of sixteen samples (Tables 1, 2, and 3). Specifically, five surface water samples, five sediment samples, three residential soil samples, and three Quality Assurance/Quality Control (QA/QC) samples were collected during the focused Site Inspection (SI). OA/OC samples included a trip blank (DL-SW-7), rinsate blank (DL-SW-6), and a duplicate surface water sample (DL-SW-5). The field samples were collected from the Animas River, Lightner Creek, and three residences located near the site. All samples were analyzed for total metals. Samples DL-SW/SE-1, DL-SW/SE-2, DL-SW-6, and LC-SW/SE-01 were also analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and pesticides/PCBs. Trip blank DL-SW-7 was analyzed for VOCs. All water samples, with the exception of the rinsate and trip blanks, were also analyzed for total organic carbon (TOC) and hardness. Samples were shipped via Federal Express on April 11, 1996, for organic and inorganic analysis through the U.S. Environmental Protection Agency Contract Laboratory Program (CLP) Routine Analytical Services (RAS) laboratories. The samples were sent to Industrial & Environmental Analysts of Whippany, New Jersey for organic analyses, and to SVL Analytical of Kellog, Idaho for inorganic analyses. Total organic carbon and hardness samples were privately contracted and sent via Federal Express to Hydrologic Laboratories of Brighton, Colorado for analysis.

Tables 1, 2, and 3 of this document contain field data and shipment information for all samples collected at the Durango Lead Smelter site during the SI. The Analytical Results Report (ARR) for the Durango Lead Smelter site will include photographs of sample locations and surrounding areas.

All surface water, sediment and soil sampling was conducted in Level D personal protective equipment. Level D personal protective equipment consisted of safety glasses, chemical resistant steel toed boots, work clothes, and latex gloves.

Equipment used for SI activities were decontaminated by first washing gross particulates off with a scrub brush, followed by a soap and water solution wash, a distilled water rinse, then sprayed with methanol

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Durango Copper Smelter/SAR Date: 04/95 Rev. 0 Page 6 of 7

TABLE 1
Surface Water Field Data
Site: <u>Durango Lead Smelter site</u>, <u>Durango</u>, <u>Colorado</u>

	Samp	ling			Meld Dat	u	
Sample ID	'Date	Time	Shipping Date	pH	Conductivity µS/cm³ :	Temperature °F	Comments
DL-SW-1	04-10-96	10:20	04-11-96	6.43	320	47.7	Background sample collected from the east bank of Animas River approximately 0.25 miles upstream from the Highway 160 bridge over the Animas River. MS/MSD was also collected at this location.
DL-SW-2	04-09-96	18:20	04-11-96	6.90	420	53.0	Collected from the west bank of Animas River at PPE. Slag from the lead smelter was observed to be entering the Animas River at this location.
DL-SW-3	04-09-96	17:20	04-11-96	6.73	5,040	56.1	Collected from the west bank of Animas River approximately 0.85 miles downstream from the PPE.
DL-SW-4	04-09-96	16:45	04-11-96	6.60	372	61.4	Collected from the west bank of Animas River approximately 1.5 miles downstream of the PPE.
DL-SW-5	04-09-96	16:45	04-11-96	6.60	372	61.4	Duplicate sample of DL-SW-4,
DL-SW-6	04-09-96	16:00	04-11-96	NA	NA	NA NA	Rinsate Blank.
DL-5W-7	04-09-96	10:15	04-11-96	NA	NA.	NA	Trip Blank.
LC-SW-01	04-10-96	11:00	04-11-96	6.96	327	48.3	Background sample collected from the north side of Lightner Creek just before it passes under Highway 160.

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Durango Copper Smelter/SAR
Date: 04/95 Rev. 0
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TABLE 2
Sediment Field Data
Site: <u>Durango Lead Smelter site</u>, <u>Durango</u>, <u>Colorado</u>

Sample ID	Sampl Date		Shipping Date	Comments
DL-SE-1	04-10-96	10:20	04-11-96	Background sample collected from the east bank of Animas River approximately 0.25 miles upgradient from the Highway 160 bridge over the Animas River. MS/MSD was also collected at this location.
DL-SE-2	04-09-96	18:20	04-11-96	Collected from the west bank of Animas River. This was the location that the lead slag was observed to be entering the Animas River (PPE).
DL-SE-3	04-09-96	17:20	04-11-96	Collected from the west bank of Animas River approximately 0.85 miles downstream from the PPE.
DL-SE-4	04-09-96	16:45	04-11-96	Collected from the west bank of Animas River approximately 1.5 miles downstream of the PPE.
LC-SE-1	D4-10-96	11:00	04-11-96	Collected from the north side of Lightner Creek just before it passes under Highway 160.

TABLE 3
Soil Field Data
Site: <u>Durango Lead Smelter site</u>, <u>Durango</u>, <u>Colorado</u>

	Samp	ling	Shipping	Comments
Sample ID	Date	Time	Date	Connents
DL-SO-1	04-10-96	11:35	04-11- 9 6	Background sample collected from the back yard of the Potter residence approximately fifty feet behind the house and thirty feet north of Lightner Creek.
DL-5O-2	04-10-96	14:02	04-11-96	Sample collected from the westernmost side of the trailer park located southeast (downwind) across the Animas River and Highway 550 from the former smelter site. The sample was collected from the west side of the yard of residence #8.
DL-SO-3	04-10-96	13:55	04-11-96	Sample collected from the southwest corner of the property located at 277 E Third Avenue. This property is located west (downwind) of the former lead smelter across the Animas river and Highway 550.

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TABLE 4
GPS Sample Locations
Site: Durango Lead Smelter site, Durango, Colorado

Sample ID '.	Latitude	Longitude
LC-SW/SE-1	N 37° 16' 15.33	W 107° 53' 42.78
DL-SW/SE-1	N 37° 16' 15.78	W 107° 53' 09.82
DL-SW/SE-2	N 37° 15′ 52.55	W 107° 52' 53.02
DL-SW/SE-3	N 37° 15' 33.72	W 107° 52° 40.19
DL-SW/SE-4	N 37° 15' 27.08	W 107° 52′ 34.11
DL-SW-5	N 37° 15' 27.08	W 107° 52′ 34.11
DL-SO-1	N 37° 16′ 14.57	W 107° 53' 46.64
DL-SO-2	N 37° 15' 46.43	W 107° 52' 39.74
DL-SO-3	N 37° 15' 58.97	W 107° 52' 47.75

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ogional Intor	motion			S	rublar	(Namo))			Airbill Numbe				l		lunn		in Column A)
on-Superion	nd Proni	am	,	/ Sa	inbloi :	K (ک <u>ی د</u> ا اره	lospe	<u> </u>	8/487 5. Ship To	2 <	798 <u>76</u> (201428-8	181		1. F 2. F	ICI INO3		Surface Water Ground Water
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(lroin	Box 7	High	Grab	Box 6	VOA	BNA	Post ARO/ PCB TOX						Colle	oction				0 = Blank S = Spike O = Dupilcate PE = Porturn, Evol. — = Nut a OC Seriole
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	5	1.	G	6			у.			3165,66		V ·	4		n		,^^	
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(Signature)																		
EPA Form 91	10-2 (11 ==	v. 5·91)	Neplaces	EPA Fo	ım (207	5-7), pre	vloue	dition w	hich m	ay be used	,	Split Samples	Accopte	d (Sign	aluro)			
A-C70-01411C	SE .									•		1	Decline	d		•		
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1. Project Code DLS fingional Inferen		ccount 602			Hegior J 1 \	<u> </u>	iamplin 10°	-	;	I. Datu Shippo Y 11 9 (virbill Number	﴾ (ر	Fed Ex			v: (E	resor- ative inter in lumn D)		7. Sample Description (Enter in Column A)	
Non-Superlund Site Name Ducase City, State Ducase	<u> </u>	i <u> </u>	Mel.	3. SP S	Type p	Signatu I Activi Pra- Hemedia PA	y non		Tlainoval EM MA	628 Ro	ik ün ute	Jān. Ar		l	3. N 4. H 5. C 6. N,	ICI INO3 NaHSO4 I2SO4 Diher (Specily) Ice only Not preserved		1. Surface Water 2. Ground Water 3. Lunchate 4. Hinsate 5. Soil/Sediment 6. Oil (High only) 7. Waste (High only) 8. Other (Specify)	
CLP Sample Numbers (Irom Inbuls)	A 1	В	C Sample Type: Comp! Grab	D 1		RAS A		High	Flogior Tracki or Tag	F nal Specific ng Number y Numbers		G Station Location Number	Yoar Sar	I Day/ Time nple ection	l Samptor Initials	Corresp. CLP Inorg Samp, No	1. I SO	K tor Appropriate Cualifle ox Designated Ffeld OC B = Blank S = Spike D + Duplicate PE = Perkim, Evid, — = Not a OC Sample	r
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Shipmont for complete?	Caso (N)	Page	7201_	<u>3</u> s	amplu	usod fo	i oraspil	ke and/	or duplic			al Sampler Sig	natures		Chain	of Custody	Soal I	Numbar '	
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Shipment for complete?	Casa (N)	Page	301-	<u>1</u> 3_ s	amplo	usod lo	r a spil	ko and/	or dupli			dditio	onal Sampler Sig	luaintai	.		Chain	ol Cus	nody S	oal Number	
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999	URS Operating Se Suite 710, Denver,		SHIP	to: HDROKO	OGIC; ATTN: SA	MPLE	CHSTO	מחום	Ch	IAIN	OF (CUSTODY RECORD
	ROJECT NOMAME: SUTE MANAGER:								T			
Durang	$\rho \rho b$			Rochel	1 Bodyn	Containers			1	-		
SAMPLERS S	IGNATURE:	<u>. </u>	_			Į į		3		1		·
		Lym	Edelma	M.		er of (S	chess				
STATION NO.	DATE	TIME	сомр.	GRAB	STATION LOCATION	Number of	70	Har				REMARKS
LC-SW-1	4-10-96]1:00		<u></u>	Surface Water :	_1						Tay # 000712
LC-SW-1	4-10-96	11:00			Surface Water			<u></u>				Tag # 000 711
DESW-1	4-10-96	10:20		/	Surface Water			/				Test 000,702 HSUSD
Drsw-3	4-9-96	17:20		V	Surface Worker	1						Tex# 000708
D1-5W-1	4-10-96	10:20		V	Surfece Water		1 / Tec#		Tuc# 000 701			
DL-5W-1	9-10-96	10:20		1 ×	Section Water			<u></u>				Tog 500 704
Disw-1	4-10-96	10:20		V	Surface Water	1-	1	<u></u>				Tig# 000703
D1.5W-4	4-9-910	11:45			Surface Water			1×	:			Teg# 0007010
DL-SW- 2	4-9-96	18: 90	9		Surface Water	11		سكسا		 		Teg# 000707.
DF-2m-A	4-9-96	16:45		V	Surface Woter		/					Ty # 100 754
DL-SW-3	11-9-96	17:20	>		Surface Water	1	/				<u> </u>	Tay # 000753
DY-5W- 2	4-9-96	18:21	0	/	Surface Water			<u> </u>	<u> </u>	:	<u> </u>	Tog# 000752
Dr-2m-2	4-9-76	16:45	<u> </u>		Surface Water	<u> </u>					<u> </u>	Tag# 0.0755
BLSU-5	4-7-96	14:45			Surface Water	_ \		/		<u> </u>	<u> </u>	Teg# 000756
					4-11-96				<u> </u>			
5 . <i>1</i>	RELINQUISHED BY: (Signature) DATE TIME RECEIVED BY: (Signature)						RELINQU	JISHED	DY: (Sign	ature)		DATE TIME RECEIVED BY: (Signature)
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·	RELINQUISHED BY: (Signature) DATE TIME RECEIVED BY: (Signature)						KISISIA Q	GIARCE	n r: failte	murél	-	(Signature)
IELINQUISI	IED BY: (Signate	arc)		RECEIVED FOR LABORATOR BY: (Signature)	Ÿ	DATE	TIM		MARK: RBILL		ER: 4231759254	

71-50906.00 NSTANT\Forms\Custody.Fm.bas White - Original to Accompany Samples

Yellow - UOS Main Office

Pink - UOS Field Office

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Durango Lead Smelter
      .SQLS FOR INORGANIC SOIL SAMPLES. SQL = IDL X (FINAL VOLUME: / (SAMPLE WEI
 9
                 URS # and EPA # =
                                       DL-SO-02/MHBG97
                           MATRIX=
                                       SOIL
                         ANALYTES=
                                        Silver
      INSTRUMENT DETECTION LIMIT (IDL) = 4.3 UG/L
                          FINAL VOLUME= 200 ML
                        SAMPLE WEIGHT= 1.00 GRAMS

* SOLIDS= 0.87 (Convert to decimal)
DILUTION FACTOR= 1
                                   SQL= 0.99 UG/G (PPM)
               URS # and EPA # = DL-SO-03/MHBG98
MATRIX= SOIL
ANALYTES= Silver
10
     INSTRUMENT DETECTION LIMIT (IDL) = 4.3 UG/L FINAL VOLUME= 200 ML
                          SAMPLE WEIGHT= 1.00 GRAMS
                               % SOLIDS= 0.90 (Convert to decimal)
                        DILUTION FACTOR=
                                 SQL= 0.96 UG/G (PPM)
                URS # and EPA # = DL-SO-03/MHBG98 MATRIX= SOIL
11
                                      Manganese
                        ANALYTES=
     INSTRUMENT DETECTION LIMIT (IDL) =
                                            2 UG/L
                           FINAL VOLUME= 200 ML
                          SAMPLE WEIGHT= 1.00 GRAMS
                              % SOLIDS= 0.90 (Convert to decimal)
                       DILUTION FACTOR= 1
                                   SQL= 0.44 UG/G (PPM)
```

```
Durango Lead Smelter
    SQLS FOR INORGANIC SOIL SAMPLES. SQL = IDL X (FINAL VOLUME / (SAMPLE WEI
            URS # and EPA # = DL-SE-04/MHDD48
5
                      MATRIX=
                                SOIL
                    ANALYTES=
                                Zinc
    INSTRUMENT DETECTION LIMIT (IDL) = 3.6 UG/L
                      FINAL VOLUME= 200 ML
                     SAMPLE WEIGHT= 1.00 GRAMS
                          % SOLIDS= 0.81 (Convert to decimal)
                   DILUTION FACTOR= 2
                            SQL= 1.78 UG/G (PPM)
             URS # and EPA # = DL-SO-03/MHBG98
MATRIX= SOIL
                    ANALYTES=
                                Copper
   INSTRUMENT DETECTION LIMIT (IDL) =
                     I LIMIT (IDL) = 2.9 UG/L
FINAL VOLUME = 200 ML
                     SAMPLE WEIGHT= 1.00 GRAMS
                         % SOLIDS= 0.90 (Convert to decimal)
                   DILUTION FACTOR=
                                     1
                             SQL= 0.64 UG/G (PPM)
            URS # and EPA # = DL-SO-02/MHBG97
MATRIX= SOIL
                    ANALYTES= Lead
   INSTRUMENT DETECTION LIMIT (IDL) = 0.5 UG/L
                     FINAL VOLUME= 200 ML
                     SAMPLE WEIGHT= 1.00 GRAMS
                      % SOLIDS= 0.87 (Convert to decimal)
                   DILUTION FACTOR= 20
                             SQL= 2.30.UG/G (PPM)
            URS \neq and EPA \neq = DL-SO-03/MHBG98
                     MATRIX=
                                SOIL
                    ANALYTES=
                                Lead
   INSTRUMENT DETECTION LIMIT (IDL) = 0.5 UG/L
                     FINAL VOLUME= 200 ML
                    SAMPLE WEIGHT= 1.00 GRAMS
                         % SOLIDS= 0.90 (Convert to decimal) ...
                   DILUTION FACTOR=
                                    80
                              SQL= 8.89 UG/G (PPM)
```

```
Durango Lead Smelter
    SQLS FOR INORGANIC SOIL SAMPLES. SQL = IDL X (FINAL VOLUME / (SAMPLE WEI
              URS # and EPA # = DL-SE-02/MHDD48
1
                    . MATRIX=
                                   SOIL
                    ANALYTES=
                                   Cadmium
    INSTRUMENT DETECTION LIMIT (IDL) = 4.7 UG/L
                       FINAL VOLUME= 200 ML
                       SAMPLE WEIGHT= 1.00 GRAMS
                           % SOLIDS= 0.81 (Convert to decimal)
                     DILUTION FACTOR= 1
                           SQL= 1.16 UG/G (PPM)
               URS # and EPA # = DL-SE-02/MHDD48
MATRIX= SOIL
                     ANALYTES= Mercury
    INSTRUMENT DETECTION LIMIT (IDL) = 0.1 UG/L
                       FINAL VOLUME= 100 ML
                      SAMPLE WEIGHT= 0.20 GRAMS
                          % SOLIDS= 0.81 (Convert to decimal)
                    DILUTION FACTOR= 1
                              SQL= 0.06 UG/G (PPM)
             URS # and EPA # = DL-SE-04/MHDD50 · MATRIX= SOIL
                     ANALYTES=
                                  Mercury
    INSTRUMENT DETECTION LIMIT (IDL) = 0.1 UG/L
                       FINAL VOLUME= 100 ML
                      SAMPLE WEIGHT= 0.20 GRAMS
                         % SOLIDS= 0.73 (Convert to decimal)
                    DILUTION FACTOR= 1
                               SQL= 0.07 UG/G (PPM)
                     nd EPA # = DL-SE-02/MHDD48
MATRIX= SOIL
ANALYTES= Vanadium
             URS # and EPA # =
    INSTRUMENT DETECTION LIMIT (IDL) = 2 UG/L
FINAL VOLUME= 200 ML
                      SAMPLE WEIGHT= 1.00 GRAMS
                           % SOLIDS= 0.81 (Convert to decimal)
                    DILUTION FACTOR=
                                      1
                                SQL= 0.49 UG/G (PPM)
```

Durango Lead Smelter SQLS FOR INORGANIC WATER SAMPLES. SQL = CRDL X DILUTION FACTOR

> URS # and EPA # =DL-SW-03/MHDD42; DL-SW-05/MHDD44 MATRIX=WATER

ANALYTES=Potassium

CRDL= 5000 UG/L DILUTION FACTOR= 1.00

SQL= 5000.00 UG/L (PPB)

URS # and EPA # =DL-SW-03/MHDD42; DL-SW-05/MHDD44 MATRIX=WATER ANALYTEŞ=Vanadium

> CRDL= 50 UG/L

DILUTION FACTOR= 1.00

SQL= 50.00 UG/L (PPB)

START

Superfund Technical Assessment and Response Team - Region VIII



United States Environmental Protection Agency

Contract No. 68-W5-0031

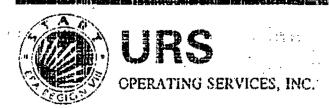
SITE INSPECTION ANALYTICAL RESULTS REPORT

DURANGO LEAD SMELTER Durango, Colorado

APPENDIX D

TDD No. 9602-9001

NOVEMBER 4, 1996:



URS Operating Services, Inc. START, EPA Region VIII Contract No. 68-W5-0031 Revision: 0 Date: 11/1996 Page 21 of 28

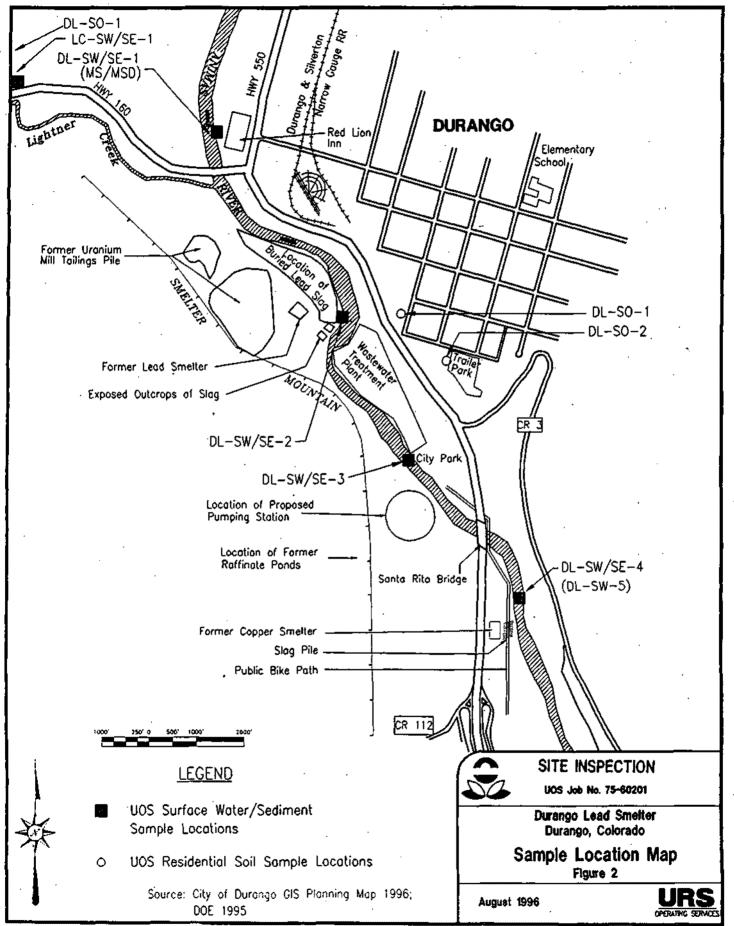


TABLE 1
Sample Locations and Rationale

Matrix	Sample#	Location	Rationale
	DL-SW-1 (MS/MSD)	Collected from the east bank of the Animas River, approximately 0.25 miles upgradient of the site PPE.	Document background conditions along the Animas River. The MS/MSD collected to test the precision of lab analytical methods.
	DL-\$W-2	Collected from the west bank of the Animas River at the site PPE.	Test for potential site impacts to Animas River wetlands and fishery.
Surface Water . Samples	DL-SW-3	Collected from the west bank of the Animas River approximately 0.85 miles downstream of the PPE.	Test for extent of site impacts to Animas River wetlands and fishery.
	DL-SW-4	Collected from the Animas River approximately one and one-half miles downstream from the PPE.	Test for extent of site impacts to Animas River wetlands and fishery.
	LC-SW-1	Background sample collected from Lightner Creek, north of Highway 160 bridge.	Document background conditions on Lightner Creek before it discharges into the Animas River.
	DL-SE-1 (MS/MSD)	Collected from the east bank of the Animas River approximately 0.25 miles upgradient of the site PPE.	Document background conditions on the Animas River. The MS/MSD collected to test the precision of lab analytical methods.
	DL-SE-2	Collected from the west bank of the Animas River at the site PPE.	Test for potential site impacts to Animas River wetlands and fishery.
Sediment Samples	DL-SE-3	Collected from the west bank of the Animas River approximately 0.85 miles downstream of the PPE.	Test for extent of site impacts to Animas River wetlands and fishery.
	DL-SE-4	Collected from the Animas River approximately one and one-half miles downstream of the PPE.	Test for extent of site impacts to Animas River wetlands and fishery.
	LC-SE-1	Background sample collected from Lightner Creek, north of Highway 160 bridge.	Document background conditions on Lightner Creek before it discharges into the Animas River.

Durango Lead Smelter SI/ARR Revision: 0

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TABLE 1 Sample Locations and Rationale

Matrix 38	Sample #	Location	Rationale
Soil Samples	DL-SO-1	Background sample collected from the back yard of the Potter residence, approximately thirty feet north of Lightner Creek in the Smelter Mountain Canyon.	Characterize background conditions in surrounding residential areas. Sample is a biased grab background sample.
	DL-SO-2	Sample collected from the westernmost side of the trailer park located southeast (downwind) across the Animas River and Highway 550 from the smelter site.	Characterize contaminants in residential properties to test for soil exposure threat to residents.
	DL-\$0-3	Sample collected from the southwest corner of the property located at 227 E. 3rd Ave. Property located west (downwind) of the former lead smelter across the Animas River and Highway 550.	Characterize contaminants in residential properties to test for soil exposure threat to residents.
	DL-SW-5	Duplicate of surface water sample DL-SW-4.	Quality Assurance sample to document the ability to collect collocated samples in the field.
QA/QC Samples	DL-SW-6	Rinsate Blank.	Document thoroughness of decontamination process.
	DL-SW-7	Trip Blank.	Document contamination introduced during sample handling and shipping. Volatile organics only.

URS Operating Services, Inc. START, EPA Region VIII Contract No. 68-W5-0031 Durango Lead Smelter SI/ARR Revision: 0 Date: 11/1996

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TABLE 2 Surface Water - Organic Sample Results Concentrations in µg/l (ppb)

UOS Sample ID#: Case #: EPA ID #: Location:	DL-SW-1 24569 HQ931 Collected from Animas River 0.25 miles updgradient of PPE	LC-SW-1 24569 HQ936 Collected from Lightner Creek upgradient of Animas River confluence	DL-SW-2 24569 HQ933 Collected from Animas River at PPE	DL-SW-7 24569 HQ937 VOA Trip Blank
Volatile Organic Compounds	Dilution:	Dilution:	Dilution:	Dilution: 1
TICs	-	-	, -	-
Semivolatile Organic Compounds	Dilution: 1	Dilution:	Dilution:	
TICs	5	7	1	NA
Pesticides	Dilution: 1	Dilution:	Dilution:	
None .	. •	-	•	NA

The analyte was not detected (qualified by laboratory software).

TICs Tentatively Identified Compounds.

Durango Lead Smeiter SI/ARR Revision: 0 Date: 11/1996 Page 25 of 28

TABLE 3 Sediment - Organic Sample Results Concentrations in ppb

UOS Sample ID#: Case #: EPA ID #: Location: Units:	DL-SE-1 24569 HQ932 Sediment collected from Animas River 0.25 miles upgradient of PPE µg/kg	LC-SE-1 24569 HQ938 Sediment collected from Lightner Creek upgradient of Animas River confluence µg/kg	DL-SE-2 24569 HQ934 Sediment collected from Animas River at PPE pg/kg	DL-SW-6 24569 HQ935 Aqeous QA/QC rinsate sample
Volatile Organic Compounds	Dilution:	Dilution:	Dilution:	Dilution:
TICs	-	= -	-	
Semivolatile Organic Compounds	Dilution: I	Dilution:	Dilution: 1	
Phenanthrene	[44]	[72]	-	~
Fluoranthene	[86]	-		
Chrysene	[54]	-	•	-
Bis(2-Ethylhexyl)Phthalate	[44]	-	-	-
Benzo(b)fluoranthene	[58]	*	•	
TICs	5	6	4	2
Pesticides	Dilution:	Dilution: 1	Dilution:	
delta-BHC	-	[2]		•

The associated numerical value was detected below the CRQL, but greater than the method detection limit and is therefore an estimate (qualified by laboratory software). Presence of the compound is reliable.

The analyte was not detected (qualified by laboratory software).

TICs Tentatively Identified Compounds.

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TABLE 4
Surface Water - Inorganic Sample Results
Concentrations in µg/l (ppb)

UOS Sample 1D: Case #: EPA ID #: Location:		DL-SW-1 24569 MHDD40 Collected from Animas River 0.25 miles upgradient of PPE	LC-SW-1 24569 MHDD46 Collected from Lightner Creek upgradient of Animas River confluence	DL-SW-2 24569 MHDD41 Collected from Animas River at PPE	DL-SW-3 24569 MHDD42 Collected from Animas River 0.85 miles downstream of, PPE 7	DL-SW-4 24569 MHDD43 Collected from Animas River 1.5 mile downstream of PPE	DL-SW-5 24569 MHDD44 Duplicate sample of DL-SW-4
	AI	2,390	4,060	1,990	1,380	1,810	1,860
i '	Sb	45.5 U	45.5 U	45.5 <i>U</i>	45.5 U	45.5 U	45.5 <i>U</i>
	As	[1.3] J	0.90 J	1 09.0	0.90 J	[1.2] J	0.90 J
·	Ba	[61.6]	[143]	[64.4]	[57.0]	[60.3]	[62.6]
1 ,	Be	0.20 <i>U</i>	[0.24]	0.20 <i>U</i>	0.20 <i>U</i>	0.20 <i>U</i>	0.20 U
15	Cd	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
lf .	Ca	53,800	73,800	61,300	61,300	60,500	61,600
	Cr	1.6 UJ	1.6 UJ	1.6 UJ	1.6 UJ	1.6 U	1.6 UJ
il	Co	. 3.9 <i>U</i>	3,9 U	3.9 U	4.8 U	3.9 U	3.9 U
,	Cu	28.3	[4.1]	[20.4]	[15.1]	[18.5]	[20.0]
bl .	Fc	4,420	. 5,210	2,920	2,140	2,690	2,780
l	Pb	45.4 J	4.5 UJ	31.8 J	29.5 J	24.1 J	53.8 J
11 -	Иg	7,190	17,900	8,960	9,090	8,490	8,670
II	4n	587	94,1	422	352	447.	450
Mercury 1	Hg	0.17 U	0.15 U	0.15 U	0.11 U	0.13 U	0.15 U
Nicket	Ni	12.4 UJ	12.4 UJ	12.4 UJ	12.4 UJ	12.4 U	12.4 UJ
Potassium	K	2,160 U	[2,730]	2,240 U	[2,750] (5,000)	2,440 U	[2,700] (5,000)
Selenium	Se	0.90 J	· 0.90 J	0.90 J	0.90 J	0.90 J	0.90 J
Silver	Ag	4.3 <i>U</i>	4.3 U	4.3 U	4.3 U	4.3 U	4.3 U
Sodium	Na	9,070	8,400	10,100	12,400	10,600	11,000
Thallium	TI	0.90 J	0.90 J	U 09.0	0.90 J	1 09.0	0.90 J
Vanadium	V	2.0 UJ	[9.7] J	2.0 UJ	[2.1] J (50)	2.0 UJ	[2.5] J (50)
Zinc	Zn	341	27.9	257	208	242	331

J/UJ (Validator Qualifier) The associated numerical value is an estimated quantity because quality control criteria were not met. Compound was not detected when denoted with a UJ qualifier.

U (Laboratory Qualifier) The analyte was not detected at reported concentration.

The associated numerical value was detected below the CRDL, but greater than the method detection limit and is therefore an estimate (qualified by laboratory software). Presence of the compound is reliable.

() Sample Quantitation Limit (SQL).

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TABLE 5
Sediment - Inorganic Sample Results
Concentrations in ppm

UOS Sample ID:	T	DL-SE-1	LC-SE-1	DL-SE-2	DL-SE-3	DL-SE-4	DL-SW-6
Case #:		24569	24569	24569	24569	24569	24569
EPA ID #:	- [MHDD47	MHDD51	MHDD48	MHDD49	MHDD50	MHDD45
Location:	-1	Sediment sample collected	Sediment sample	Sediment sample	Sediment sample	Sediment sample	QA/QC Ageous Rinsate
erit i erit erit i de f	1	from Animas River 0.25	collected from Lightner	collected from Animas	collected 0.85 miles	collected 1.5 miles	Blank
1	1	miles upgradient of PPE	Creek updgradient of	River at PPE	downstream of PPE	downstream of PPE	
	-		Animas River confluence		[19] 日本中国共和国共和国共和国共和国共和国共和国共和国共和国共和国共和国共和国共和国共和国		
Analyte/Abbreviation		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/l
и	Al	8,210	6,350	7,070	6,030	6,300	[0.0374]
Antimony	Sb	12.9 U	13.7 U	11.2 U	12.9 <i>U</i>	12.4 U	0.0455 <i>U</i>
Arsenic	As	11.2 J	1 6.6	10.7)	8.5 J	9.2 J	0.0009 J
Barium	Ba	155	226	281	112	. 134	0.00057 U
Beryllium	Be	[0.53]	[0.55]	0.33 U	0.37 U	[0.42]	0.0002 <i>U</i>
Cadmium	Cd	4.9	1.6	★ 498 (1.16)	3.6	4.0	0.0047 U
Calcium	Ca	4,070	.75,000	11,600	6,520	9,610	0.0403 <i>U</i>
Chromium	Ct	6.5 J	6.2 J	6.0 J	4.2 J	· 5.0 J	0.0016 <i>U</i>
Cobalt	Co	[11.7]	[7.1]	13.3	[7.8]	[9.7]	0.0039 U
Copper	Cu	130	22.4	284	125	142	. 0.0029 U
Iron	Fe	20,000	19,400	24,300	15,900	17,200	0.0087 UJ
Lead	Pb	334	21.1	311	226	260	0.0012 UJ
Magnesium N	Mg	4,160	9,580	4,250	3,440	3,830	- 0.0381 U
Manganese N	Mn	2,470	197	3,060	1,570	1,800	0.002 <i>U</i>
Mercury	Hg	0.07 <i>U</i>	[80.0]	[0.07] (0.06)	0.07 U	[0.07] (0.07)	0.00015 U
•	Ni	[6.6] J	16.7 J	[9.3] J	[4.2] J	[6.9] 1	0.0124 U
Potassium	. K	1,460	2,080	1,500	[1,020]	[1,080]	0.262 <i>U</i>
Selenium	Se	0.25 J	[0.92] J	0.22 J	0.25 J	0.25 J	0.0009 J
W	Ag	3.0	1.3 U	8.7	[1.9]	3.1	[0.0047]
ii '	Na	[81.1]	[126]	[95.7]	(111)	[84.5]	0.111 U
Thallium	TI	0.25 J	0.27 J	0.22 J	0.25 J	0.25 J	0.0009 1
Vanadium	V	21.8	24.7	★ 357 (0.49)	16.2	18.3	0.002 U
Zinc	Zn	1,000	76.6	★ 28,500 (1.78)	813	972	0.0036 U

J/UJ (Validator Qualifier) The associated numerical value is an estimated quantity because quality control criteria were not met. Compound was not detected when denoted with a UJ qualifier.

U (Laboratory Qualifier) The analyte was not detected at reported concentration.

The associated numerical value was detected below the CRDL, but greater than the method detection limit and is therefore an estimate (qualified by laboratory software). Presence of the compound is reliable.

⁽⁾ Sample Quantitation Limit (SQL).

[★] Sample values are ≥ to the SQL, ≥ 3x background concentrations, and ≥ 5x all blank concentrations.

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TABLE 6
Residential Soil - Inorganic Sample Results
Concentrations in ppm

UOS Sample ID:		DL-SO-1	DL-SO-2	DL-SO-3	DL-SW-6
Case #:		24569	24569	24569	24569
EPA ID #:		MHDD52	MHBG97	MHBG98	MHDD45
Location:		Background sample collected	Soil sample collected from	Soil sample collected from	QA/QC Aqueous Rinsate Blank
*		from residence, near Lightner	trailer park SE from site	residence west of site	
		Creek	(downwind)	(downwind)	
Analyte/Abbreviation		mg/kg	mg/kg	mg/kg	mg/l
Aluminum	Al	8,210	11,700	19,100	[0.0374]
Antimony	\$b]	11.6 U	10.4 U	10.1 <i>U</i>	0.0455 <i>U</i>
Arsenic	As	8.2 J	21,4 J	13.1 J	0.0009 J
Barium	Ba	180	219	224	0.00057 U
Beryllium	Be	[0.54]	[0.63]	[0.79]	0.0002 U ·
Cadmium	Cq	1.5	3.3	.2.7	0.0047 <i>U</i>
Calcium	Ca	21,700	8,850	11,400	0.0403 U
Chromium	Cr	8.7 J	11.9	13.8	0.0016 <i>U</i>
Cobalt	Cò	[6.0]	[7.7]	11.8	. 0.0039 <i>U</i>
Copper	Cu	26.9	47.)	★ 91.5 (0.64) ·	0.0029 <i>U</i>
Iron	Fe	16,600	17,200	23,900	0.0087 UJ
Lead	Pb	52.8	★ 181 (2.30)	★ 302 (8.89)	0.0012 UJ
Magnesium	Mg	5,680	3,950	6,010	0.0381 U
Manganese	Mn	268	669	★ 1,310 (0,44)	0.002 U
Mercury	Hg	0.34	0.22	0.12	0.00015 U
Nickel	Ni		10.4 J	15.1	0.0124 <i>U</i>
Potassium -	κ	2,480	2,930	2,710	0.262 <i>U</i>
Selenium	Se	[0.40] J	[0.25] J	· [0.26] J	0.0009 J
Silver	Ag	1.1 U	★ [1.7] (0.99)	★ [2.1] (0.96)	[0.0047]
Sodium	Na	(118)	[80.3]	[250]	. 0.111 U
Thallium	ΤI	. 0.23 J	0.21 J	0.20 J	0.0009 1
Vanadium	v	24.4	40.8	31.6	0.002 U
Zinc	Zn	143	211	402	0.0036 U

J/UJ (Validator Qualifier) The associated numerical value is an estimated quantity because quality control criteria were not met. Compound was not detected when denoted with a UJ qualifier. Sample data was qualified with a UJ for one or more of the following reasons; low correlation coefficient, negative blank results, low matrix spike %R, and/or low analytical spike %R. Refer to data validation report for more detailed description of each elements qualifications.

U (Laboratory Qualifier) The analyte was not detected at reported concentration.

The associated numerical value was detected below the CRDL, but greater than the method detection limit and is therefore an estimate (qualified by laboratory software). Presence of the compound is reliable.

⁽⁾ Sample Quantitation Limit (SQL).

[★] Sample values are ≥ to the SQL, ≥ 3x background concentrations, and ≥ 5x all blank concentrations.



TECHLAW INC.

PHONE: (303) 763-7188 FAX: (303) 763-4896

June 12, 1996

Ms. Lori Raschke URS Operating Services, Inc. 1099 18th Street, Suite 710 Denver, CO 80202-8296

RE: Transmittal of Data Validation Reports

Dear Ms. Raschke:

Please find the enclosed Validation Report MHBG97 for metals analysis by CLP methodology for the Durango Lead Project.

The report was prepared in accordance to USEPA Region VIII validation formats and requirements.

If you have any questions regarding this report, please contact me at (303) 763-8881.

Yours sincerely, TechLaw, Inc.

Robert J. Thielke Staff Consultant

enclosure

IF: 252-001

CUDY

REGION VIII SUMMARY OF CLP DATA QUALITY ASSURANCE REVIEW INORGANIC METALS

Case/SAS No.	Site Name			Operable Unit
24569	Durango Lead Smelter			
RPM Name				
Pat Smith				,
Contractor Laboratory.	Contract No.	SDG No.	•	Laboratory TPO/Region
SVL Analytical, Inc.	68-D5-0138	MHBG97		/VIII

Data Reviewer <u>Lyle Ryman</u>
Review Completion Date <u>June 7, 1996</u>

Sample ID	Sample Location	- Matrix	Analysis
MHBG97	DL-SO-2	Soil	CLP Metals
MIHBG98	DL-SO-3	1	•
MHDD40	DL-SW-1	Water	. CLP Metals
MHDD41	DL-SW-2	7	
MIHDD42	DL-SW-3		·
MHDD43	DL-SW-4		
MHDD++	DL-SW-3	7	j
MHDD45	DL-SW-6	7 · i	
MHDD46	LC-SW-L	7.	
MHDD47	DL-SE-1	Soil	CLP Metals
MHDD48	DL-SE-2	7	w_E
MHDD49	DL-SE-3	7	•
MHDD50	DL-SE-4	7	
MHDD51	LC-SE-1	7	· ·
MHDD52	DL-SO-I	7	•

TechLaw, Inc.

mhbg97.urs1

DATA QUALITY STATEMENT*

	Data are ACCEPTABLE according to EPA Functio (flags) added by the reviewer. Data are UNACCEPTABLE according to EPA Function Data are acceptable with QUALIFICATIONS noted	ctional Guidelines.
Telepho	one/Communication Logs Enclosed? Yes	No X
TPO At	tention Required? YesNoX	If yes, list the items that require

TechLaw. Inc

minicg97 urs l

^{*} Please see Data Qualifier Definitions attached to the end of this report.

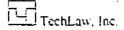
INORGANIC RAS DATA QUALITY ASSURANCE REVIEW REVIEW NARRATIVE SUMMARY

This data package was reviewed according to the document "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review," February 1994.

Case 24569, SDG MHBG97 consisted of fifteen (15) samples for CLP RAS inorganic analyses.

The following tables list all data qualifiers added to the data.

				Review
Sample Number	Element	Qualifier	Reason for Qualification	Section
All samples	Thallium	l ni	Low correlation coefficient	l III
MHDD45	Barium) U	Positive blank contamination	IV
MHDD48, MHDD49	Beryllium			
MHDD45	Calcium]		
MHDD42	Cobalt			
MHDD+5	Magnesium	1		
MHDD45, MHDD46	: Lead]		
MHDD40. MHDD41,	Mercury			
MHDD42, MHDD43,		,		
MHDD44, MHDD45,			,	*
WHDD46				•
MHDD40, MHDD41.	Potassium			
MHDD43	1			•
MHDD45	Sodium			
MHDD40, MHDD41.	Chromium	ַ נט	Negative blank results	IV
MHDD42, MHDD44,	1			*
WHDD46				
MHDD45	lron	٠		
MHDD40, MHDD41,	Nickel		·	
MHDD42, MHDD44,				
₩HDD46	•	•		
MHDD40, MHDD41,	Vanadium			
MHDD43				
MHBG97, MHDD47,	Nickel	. 1		
WHDD48, WHDD49,		•		
MHDD50, MHDD51.				
MHDD52				
MHDD47, MHDD48,	Chromium			
MHDD49, MHDD50,				
MHDD51, MHDD52				
MHDD42, MHDD44,	Vanadium			•
MHDD46	١		<u> </u>	



mhbg97 urs l

Sample Number	Element	Qualifier	Reason for Qualification	Review Section
All samples	Arsenic	1/U1	Low matrix spike %R	VIII
MHDD40, MHDD41,	Lead	J.	.]	
MHDD42, MHDD43.		•	•	
MHDD44, MHDD45,			1.2	
MHDD46		•	1	
All samples	Selenium	J/UJ	<u> </u>	
MHDD40, MHDD41,	Selenium	UJ	Low analytical spike %R	XI
MHDD42, MHDD43,				
MHDD44, MHDD46,			1	
MHDD47] . [
MHDD51, MHBG97,	Selenium	J	1.	
MHBG98				
MHBG98, MHDD51	Arsenic	J	Low correlation coefficient MSA	XI

INORGANIC RAS METALS DATA QUALITY ASSURANCE REVIEW

SOW Nur Revision	mber <u>ILMO4.0</u>	RAS Inorganic Metals Data Completeness Che	eklist
	over Sheet/Transmittal Letter (one pase Narrative	per data package shipment)	E
P FO	Inorganic Analysis Data Sheet Initial and Continuing Calibrat CRDL Standard for AA and IG Blank Analysis Results (Form ICP Interference Check Sample Spiked Sample Recovery Resu Post Digest Spiked Sample Re Duplicate Sample Results (For Laboratory Control Sample Re Standard Addition Results (For ICP Serial Dilution Results (For ICP Interelement Correction F ICP Interelement Correction F ICP Linear Ranges (Form 12) Preparation Log (Form 13) Analysis Run Log (Form 14)	tion Verification Results (Form 2A) (CP (Form 2B) (3) (ble Results (Form 4) (ults (Form 5A) (ecovery Results (Form 5B) (rm 6) (esults (Form 7) (orm 8) (orm 9) (Form 10) (Factors (Form 11A, 11B)	
P P San P P P	A Flame AA Raw Data Graphite Furnace AA Raw Dat Mercury Raw Data Cyanide Raw Data nple Digestion Logs ICP/Flame Digestion Logs Graphite Furnace Digestion Lo		
P Star P Perc P CO	ndard Preparation Logs ndard Source and Expiration Dates cent Solids Calculations (Solids onl C Records nple Description	s (expiration dates not included) ly)	
KE P R NP NR NA	 Provided in original data pack Provided as Resubmission Not provided in original data Not required under the SOW 	package or as resubmission ackage or analysis	97. urs (

1800468

ED_000552_00024206-00056

INORGANIC RAS METALS DATA QUALITY ASSURANCE REVIEW

I.	DELIVER	ABLES				
All	deliverables we	re present as s	specified in	the statement of w	ork.	
Yes	_X	No		e e e e e e e e e e e e e e e e e e e		
Соп	nments:	,	•	•		
	None.		-			
	•	•				
IJ.	HOLDING	TIMES	٠,			•
Ali (CLP-SOW hold	ling times wer	e met.			•
	_X	_				
	ments:	٠.			•	,
,	None.					
•			•	-		
A]] 4	O CFR Part 130	5 technical hol	lding times	were met.		•
Y.es .	X	No				
Com	ments:					
	None.					
	· · ·	•	•			
Ш.	INSTRUMI	ENT-CALIBI	RATIONS:	INÎTIAL AND	CONTINUING	G STANDARDS
peci	fied control lim	its listed in the	e functional	l'according to SO' guidelines	W requirements	and met the
Yes_	÷.	No <u>X</u>		•		
				•		•
The i	nstruments wer	e calibrated d	aily and eac	th time they were	set up.	•
Yes_	X	No	·			
Γhe i	nstruments wer			ank and the approp	oriate number o	f standards.
íes _	<u>X</u>	No				
	•		,			,
			•			
<u>'-</u>] .	TechLaw, Inc.	,	ϵ	5		mbbe) 7/urs

Comments:

The thallium analysis initial calibration correlation coefficient was calculated to be less than 0.995.

Analyte	Correlation Coefficient	Associated Sample	Qualifier
Thallium	0.9887	MHBG97, MHBG98, MHDD40.	UJ
	-	MHDD41, MHDD42, MHDD43,	
•		MHDD44, MHDD45, MHDD46.	•
•		MHDD47, MHDD48, MHDD49,	•
		MHDD50, MHDD51, MHDD52	

IIIa. Initial and continuing calibration verification standards (ICV and CCV, respectively) were performed according to SOW requirements and met specified control limits listed in the functional guidelines.

Yes		No_	Х
	,		

The calibration verification results were within 90-110% recovery (80-120% for mercury and 85-115% for cyanide).

		•		
Yes		No:	· V	
1 62		: 10		

The continuing calibrations standards and blanks were run at 10% frequency or every 10 samples.

Yes	<u>X</u>	No

Comments:

None.

Analyte	ICV/CCV	% R	Associated Sample	Qualifier
Sodium	CCV6	113	None	NA

Шь	. The CRDL	standards for IC	P and/or AA	met contrac	t requirements	,	
Yes	X	. No					
analy	zed at the beg		nd of each sai			r is greater) were of twice per eight	
Note	A CRI analy	sis is not require	d for Al, Ba,	Ca, Fe, Mg,	Na, and K.		
Yes	X	No	 .				
		tandards (CRA) er eight hour shif				sample run, or at	a
Yes_	X	No		•	•		
	•	•	•		•	•	
		: CRA were analy	•	ICV.			
Yes_	Χ	No				•	
Comr	nents:			•			
	None.		, ,				
			•			,	
ſ۷	LARORAT	ORY/PREPAR	ATION BL	ANK ANAL	YSIS RESIII	TS	
The in	nitial and conti		blank (ICB a	and CCB, res	spectively) and	lyses were perfor	med
Yes _	X	No					
Comn		•	*				
	None.						
,	None.						
		ation blank analy I control limits.	sis was perfo	rmed accord	ing to SOW re	equirements and	
Yes _	<u>X</u>	No		•		-	
Comm	nents:		,			•	
	None.		•		•		
	rione.						
7		,					

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Contamination was detected in the preparation and/or calibration blanks as summarized in the following table:

	T	Concentration Found	CRDL	. Blank	Sample	Qualifier/
Biank !D	Analyte	in the Blank (ug/L)	(ug'L)	Conc. (ug/L)	Affected	Adjustment
CCB3	Barium	0.7	200	3.5	MHDD45	U
CCBI	Calcium	24.2	5000	121		"
CCB3	Magnesium -	37.2	5000	186		
ICB	Lead	1.7	3	8.5		
CCB3	Beryllium	0.3	5 '	1.5	MHDD48, MHDD49	Ü
PBS	Bervllium	-0.2138	5	-1.1	None	l NA
ICB	Chromium	-6.9	10	-34.5	MHDD40, MHDD41.	UJ
					MHDD42, MHDD44,	•
				1	MHDD46	
ICB	Chromium	-6.9	10	-34.5	MIHDD47, MIHDD48.	- J
			•		MHDD49, MHDD50,	,
				1 .	MHDD51, MHDD52	
CCB3	Cobalt	4.3	50	21.5	MHDD42	U.
ICB	Iron	15.4	100	-77.0	MHDD45	٠ ل <u>ا</u>
CCB2	. Mercury	0.2	0.2	- 1.0	MHDD40, MHDD41.	U .
		*			MHDD42, MHDD43,	
					MIHDD44, MIHDD45,	
	-				MHDD46	
PBW	Nickel	-15.3	+0	-76.5	MHDD40, MHDD41.	Ü
]					MHDD42, MHDD44,	
<u>, </u>	.				MHDD46	
CCB6	Nickel	-13.2	40	-66.0	MHBG97, MHDD47,	J
			4	·	MHDD48, MHDD49.	
				·	MHDD50, MHDD51.	
		.			MHDD52	1
CCB+	Potassium	537.3	5000	2690	MHDD40, MHDD41.	υ . {
· ·					MHDD43	
PBW	Sodium	50.4	5000	252	MHDD45	ប
CCB6	Vanadium ,	-2.6	50	-13.0	MHDD40, MHDD41,	, UI {
					MHDD43	
CCB6	Vanadium	-2.6	30	-13.0	MHDD42, MHDD44,	1
					MHDD46	
1CB	Lend	1.7	<u>;</u>	8.5	NHDD46	<u> </u>
CCBI	Arsenic	1.3	Įΰ	6.5	None	NA
PB5	Lead	0.81	3	4.1	.	1
CCB3	Lead	1.8	3 3	9.0		. 1
CCB1	Lead	1.5		7.5		



V. ICP INTERFERENCE CHECK SAMPLE

The ICP interference check sample (ICS) was run twice per eight hour shift and/or at the beginning and end of each sample set analysis sequence (whichever is more frequent), with the interferences properly corrected for (as defined in the SOW).
Yes X No
Comments
None.
VI. LABORATORY CONTROL SAMPLE (LCS)
The LCS analyses were performed according to SOW requirements and the results met specific control limits
YesX No
Comments:
None.
VII. DUPLICATE SAMPLE ANALYSIS
Duplicate sample analyses were performed according to SOW requirements and results met specific control limits.
Yes _ X No
Comments:
None.
VIII. MATRIX SPIKE ANALYSES
Matrix spike analyses were performed according to SOW requirements and results met recommended recovery and precision limits.
Yes No _X

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Comments:

Percent recoveries that do not meet the matrix spike criteria are summarized in the following table.

Sample ID	Analyte	MS % Recovery	Sample Affected	Qualifier
MHDD40	Arsenic	70.7	MHDD40, MHDD43	1
Ī	Arsenic	70.7	MHDD41, MHDD42,	UJ
			MHDD44, MHDD45,	
	<u> </u>		MHDD46	
	Lead	14.3	MHDD40, MHDD41.	J
	<i>7-</i>		MHDD42, MHDD43,	
	•		MHDD44, MHDD45,	b.
) *		MHDD46	
}	Selenium	63.7	MHDD40, MHDD41,	UJ
ľ			MHDD42, MHDD43,	
	*		MIHDD44, MIHDD45,	•
· .			MHDD46	
MHDD+7	Arsenic	10.5	MIHBG97, MIHBG98,	J
١,	¥ .		MHDD47, MHDD48.	
	*		MHDD49, NHDD50,	
<u>'</u>		<u> </u>	MHDD51, MHDD52	
	Selenium	73.5	MHBG97, MHBG98	<u> </u>
	Selenium	73.5	MHDD47, MHDD48,	ប្រ
	<u> </u>		MHDD49, MHDD50	
	Selenium	73.5	MHDD51, MHDD52	J

ICP POST DIGESTION SPIKE RECOVERY LX.

Post digestion results met reco	spike recovery analyses wer ommended recovery and pre	re performed according to SOW requirements and ecision limits.
Yes X	No	-
Comments:	•	
None.		
X. SERIA	L DILUTION	
	analyses were performed acc percent difference criteria.	cording to SOW requirements and results met -
Yes X	No	_
Comments:		
None.		

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XI. GRAPHITE FURNACE ATOMIC ABSORPTION

Graphite furnace atomic absorption analyses (duplicate injections, QC spike recoveries, method of
standard additions, etc.) were performed according to SOW requirements and results met
recommended recovery and precision limits.

Y	es	 •	No	_X

Comments:

Samples for which MSA analysis was required but not performed or MSA results did not meet criteria are summarized in the following table:

Analyte	Correlation Coefficient	Sample Affected	Comment	Qualifier
Arsenic	0.9928	MHBG98	Second run 0.9880	J
		MHDD51	Second run 0.9928	1

Sample results that do not meet the analytical spike criteria for GFAA are summarized in the following table:

Analyte	. %R	Sample Affected	Comment	Qualifier
Selenium	67.5	MHDD40		C1
	63.1	MHDD41	,	
	67.5	NIHDD42]
•	63.7	MHDD43		
N	67.5	7/HDD++		
•	79.4	MHDD46		
	61.0	MHDD47		
	77.2	NHDD51		
•	36.5	MHBG97		
·	57.6	MHBG98		
- Selenium	113	MHDD45	Non-detected result	None
Thallium	116	MHDD43	Non-detected result	None

XII. INSTRUMENT DETECTION LIMIT (IDL)

Quarterly IDL	s were prov	rided and	all IDL me	t contract	requirements.
Yes X	· · · · · · · · · · · · · · · · · · ·	No			
Comments:					

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None.

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•		ons for ICP were reported.	
Yes	<u>X</u>	No	
Commo	ents:		•
	None.		•
XIV.	LINEAR R	NGE VERIFICATION ANALYSIS	
Linear	range verific	on analysis was performed and results were within control limits.	
Yes	<u> </u>	No	
Comme	ents:		
	None.		
	•		
		L COMMENTS OR PROBLEMS/RESOLUTIONS (not addressed	
i	above)		*
, i	MHDD45, N MHDD48, N	re of samples MHDD40, MHDD41, MHDD42, MHDD43, MHDD44, IDD46, and MHDD47 upon receipt was 1°C. The temperature of samp IDD49, MHDD50, MHDD51, MHDD52, MHBG97, and MHBG98 wanthe chain-of-custody records.	les s
	Time betwee	he last sample and CCV4 exceeds least time between samples.	
(Cyanide anal	s was not required nor performed for this data package.	

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REGION VIII

DATA QUALIFIER DEFINITIONS

For the purpose of data validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality.

General Qualifiers for use with Organic Data

- R Reported value is "rejected." Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
- J The associated numerical value is an estimated quantity because the Quality Control criteria were not met.
- UJ The reported quantitation limit is estimated because Quality Control criteria were not met. Compound was not detected.

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TECHLAW INC.

PHONE: (303) 763-7188 FAX: (303) 763-4896

June 12, 1996.

Ms. Lori Raschke URS Operating Services, Inc. 1099 18th Street, Suite 710 Denver, CO.80202-8296

RE: Transmittal of Data Validation Reports

Dear Ms. Raschke:

Please find the enclosed Validation Report HG931 for volatile, semi-volatile, and pesticide analyses by CLP methodology for the Durango Lead Project.

The report was prepared in accordance to USEPA Region VIII validation formats and requirements.

If you have any questions regarding this report, please contact me at (303) 763-8881.

Yours sincerely, TechLaw, Inc.

Robert J. Thielke Staff Consultant

enclosure

IF: 252-001

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INORGANIC	ANALYSES	DATA	SHEET

Case No.: 24569_ SAS No.: _____ SDG No.: MHBG97

EPA	SA	MPLE	NO

	(MHBG97
Lab Name: SVL_ANALYTICAL_INC	Contract: 68-D5-0138	ii

Matrix (soil/water): SOIL_ Lab Sample ID: MHBG97

Level (low/med): LOW__ Date Received: 04/12/96

% Solids: __87.7

Lab Code: SILVER

Concentration Units (ug/L or mg/kg dry weight): MG/KG

	_		,				
	CAS No.	Analyte	Concentration	C	Q	М	
-	7429-90-5	Aluminum	11700	-		P	!
į	7440-36-0	Antimony_	10.4	177		P	1
	7440-38-2	Arsenic	21.4	1.	SN	F	it
	7440-39-3	Barium	219	-		P-	13
1	7440-41-7	Beryllium	0.63	-		- P	1
1	7440-43-9	Cadmium	3.3		* .	F-	1
1		·	8850			P -	İ
i	7440-70-2	Calcium_		-		! '	Ì
į	7440-47-3	Chromium_	11.9	-!		P_	į
į	7440-48-4	Cobalt	7.7	В		P_	
į	7440-50-8	Copper	47.1	_		P_	
į	7439-89-6	Iron	17200	_ !		P_	
Ì	7439-92-1	Lead	181	_ !		F_	
1	7439-95-4	Magnesium	3950	_ [P_	
į	7439-96-5	Manganese;	669;	_		P_	
ľ	7439-97-6	Mercury	0.22¦	_		CV	
1	7440-02-0	Nickel	10.4			P	J
•	7440-09-7	Potassium	2930	-!		Ď	
į	7782-49-2	Selenium	0.25	B	WN	F	J
i	7440-22-4	Silver	1.7	B		P	
į	7440-23-5	Sodium	80.3	B		P	
į	7440-28-0	Thallium	0.21	•		F	J
į	7440-62-2	Vanadium	40.8	į		P_	
i	7440-66-6	Zinc -	211	-;		P^-	
į		Cyanide		-:		NR	
į		;	<u> </u>	-i			•
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LR6/12/9

Color Before:	BROWN	Clarity Before:	Т	exture: MEDIUM
Color After:	YELLOW	Clarity After:	A	rtifacts:
Comments:				
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INORGANIC ANALYSES DATA SHEET

EPA	SAMPLE	NO.
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				HBG98	-
Lab Name:	SVL_ANALYTICAL_INC	Contract:	68-D5-0138	1	_

Case No.: 24569 SAS No.: _____ SDG No.: MHBG97

Matrix (soil/water): SOIL_

Lab Sample ID: MHBG98

Level (low/med): LOW___

Lab Code: SILVER

Date Received: 04/12/96

% Solids:

90.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

			*				_
	CAS No.	Analyte	 Concentration	c	Q	М	
	7429-90-5	Aluminum	19100	-		P	
	7440-36-0	Antimony_	10.1	Ū	i	P	i
	7440-38-2	Arsenic	13.1	į	+N	F	J
	7440-39-3	Barium	224	<u> </u>		P	i
	7440-41-7	Beryllium	0.79	ŀΒ		P_	1
	7440-43-9	Cadmium_	2.7	l !	*	¦P_	1
	7440-70-2	Calcium_	11400	ΙΞ,		{ P_	1
	7440-47-3	Chromium_	13.8		i	P_	1
	7440-48-4	Cobalt	11.8			P_	1
	7440-50-8	Copper	91.5			P_	i
	7439-89-6	Iron	23900		l	P_	1
	7439-92-1	Lead	302		S	F_	1
1	7439-95-4	Magnesium	6010	_		P_	ţ .
	7439-96-5	Manganese	1310¦	_		P_	1.
1	7439-97-6	Mercury	0.12	_ ;	· · · · · · · · · · · · · · · · · · ·	CV	1 5
į	7440-02-0	Nickel	15.1	_		P_	1
1	7440-09-7	Potassium	2710	_		P_	!
	7782-49-2	Selenium_	0.26		WN	F_	J
į	7440-22-4	Silver		В		P_	
į	7440-23-5	Sodium	250	,		P_	!
	7440-28-0	Thallium_	0.20	U		F_	J
	7440-62-2	Vanadium_	31.6	_		P_	•
1	7440-66-6	Zinc	402	-!		P_	1
1		Cyanide		_ !		NR	
í			i	_			i

LR 4,2/91

Color Before:	BROWN	Clarity Before:	Texture: MEDIUM
Color After:	YELLOW	Clarity After:	Artifacts:
Comments:		•	
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FORM I - IN

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INORGANIC	ANALYSES	DATA	SHEET

EPA SAMI	PLE NO
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MHDD40

Lab Name: SVL_ANALYTICAL_INC.____ Contract: 68-D5-0138

Lab Code: SILVER Case No.: 24569 SAS No.: ____ SDG No.: MHBG97

Matrix (soil/water): WATER

Lab Sample ID: MHDD40

Level (low/med): LOW___

Date Received: 04/12/96

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L_

						
CAS No.	Analyte	Concentration	c	Q	М	} ! ! !
7429-90-5 7440-36-0	Aluminum_ Antimony_	2390 45.5	Ū	1	P P	
7440-38-2 7440-39-3	ArsenicBarium		B	N	F_	J
7440-41-7	Beryllium	0.20	:		P_ P	: ! !
7440-43-9 7440-70-2	Cadmium Calcium	4.7 53800	U	i	P_	
7440-47 - 3	Chromium_ Cobalt	1.6	•		P_	UГ
7440-50-8	Copper	28.3	_		P	
7439-89-6 7439-92-1	Iron Lead	4420		SN	P F	J
7439-95-4	Magnesium	7190	_		p	
7439-96-5 7439-97-6	Manganese Mercury	587 0.17	B		ĈΨ	u
7440-02-0 17440-09-7	Nickel	12.4	U B		P_	uf u
7782-49-2	Selenium_	0.90	บ	wn	F_	7
7440-22-4	Silver Sodium	9070	U 1		P_ P_	
7440-28-0	Thallium_ Vanadium	0.90			F-	J
7440-66-6	Zinc	341	-		P_	
	Cyanide		-	[NR	
	·				· · · ·	

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Color Before: COLORLESS

Clarity Before: CLEAR_

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

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INORGANIC	ANALYSES	DATA	SHEET

EPA SAMPLE NO.

MHDD41

Lab Name: SVL ANALYTICAL INC. Contract: 68-D5-0138

Lab Code: SILVER

Case No.: 24569 SAS No.: _____ SDG No.: MHBG97

Matrix (soil/water): WATER

Lab Sample ID: MHDD41

Level (low/med):

Date Received: 04/12/96

% Solids:

0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

							
	CAS No.	Analyte	 Concentration	С	Ω	M.	1
	7429-90-5	Aluminum	1990	-	!	P	!
	7440-36-0	Antimony	45.5	Ū	į ————	P	i '
	7440-38-2	Arsenic	0.90	•	N	F	J
	7440-39-3	Barium	64.4	•		P	
	7440-41-7	Beryllium	0.20	•		P	į
	7440-43-9	Cadmium	4.7	•		P	į
	7440-70-2	Calcium	61300			P	į
	7440-47-3	Chromium	1.6	Ū		P-	us
	7440-48-4	Cobalt	3.9			P-	
	7440-50-8	Copper	20.4			P	i
	7439-89-6	Iron	2920			P	į
	7439-92-1	Lead	31.8	_	SN	F	J
i		Magnesium	8960			P_	i
-		Manganese	422	-		p-	i
		Mercury	0.15	B		CV	u
Ì		Nickel -	12.4	•		Р	uJ
i	7440-09-7	Potassium		В		P-	u
1	7782-49-2	Selenium	0.90	U	WN	F	J
į	7440-22-4	Silver	4.3	U		P_	İ
į	7440-23-5	Sodium	10100	į		P	
i	7440-28-0	Thallium	0.90	Ū		F	J
1	7440-62-2	Vanadium	2.0	U		P_	45
1	7440-66-6	Zinc	257	I		P_	1
:		Cyanide_		_		NR	l
t				_			
	_						

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re: COLORLESS

Clarity Before: CLEAR_

Texture:

Color After: COLORLESS

Clarity After: CLEAR_ Artifacts:

Comments:

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EPA SAMPLE NO.

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Lab Name: SVL_ANALYTICAL_INC.____ Contract: 68-D5-0138

Lab Code: SILVER Case No.: 24569 SAS No.: SDG No.: MHBG97

Matrix (soil/water): WATER

Lab Sample ID: MHDD42

Level (low/med): LOW___

Date Received: 04/12/96

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L_

,	·	,		,	_	t
CAS No.	Analyte	Concentration	c	Q	М	
7429-90-5	Aluminum	1380	-	!	P	!
7440-36-0	Antimony	45.5	· —	<u> </u>	P -	į .
7440-38-2	Arsenic	0.90		N	F	ij
7440-39-3	Barium	57.0	•	·	p-	
7440-41-7	Beryllium	0.20			P	i [.]
7440-43-9	Cadmium	4.7	_		P	į
7440-70-2	Calcium	61300	i		P^{-}	
7440-47-3	Chromium	1.6	Ū	,	p	75
7440-48-4	Cobalt	4.8	•		P	u
7440-50-8	Copper	15.1			P-	_
7439-89-6	Iron	2140			P	
7439-92-1	Lead	29.5	_	SN	F	J
7439-95-4	Magnesium	9090	_		P	
7439-96-5	Manganese	352	-		P	
7439-97-6	Mercury	0.11	B		c⊽	U
7440-02-0	Nickel -		U		Р	UJ
7440-09-7	Potassium	2750	В		P-	_
,	Selenium	0.90		WN	F	Ť
7440-22-4	Silver	4.3	•		P	
7440-23-5	Sodium	12400			P !	
7440-28-0	Thallium	0.90	Ū,		Ē	J
7440-62-2	Vanadium	2.1	B		P	J
7440-66-6	Zinc	208	i		P	
	Cyanide		- i	***************************************	NR	
			-;			
*	·'	,	- '			

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1R	7//	2/9	,

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COLORLESS

Clarity Before: CLEAR_ Texture:

Color After:

COLORLESS . Clarity After: CLEAR_

Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

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MHDD43

Lab Name: SVL_ANALYTICAL_INC._____ Contract: 68-D5-0138

Lab Code: SILVER Case No.: 24569 SAS No.: ____ SDG No.: MHBG97

Matrix (soil/water): WATER

Lab Sample ID: MHDD43

Level (low/med): LOW__

Date Received: 04/12/96

% Solids:

0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

	1	1
CAS No. Analyte Concentration C Q	М	!
7429-90-5 Aluminum 1810	P	
7440-36-0 Antimony 45.5 U	P	į
7440-38-2 Arsenic 1.2 B N	F	J
7440-39-3 Barium 60.3 B	P	į
7440-41-7 Beryllium 0.20 U	P	i .
7440-43-9 Cadmium . 4.7 U	P	
7440-70-2 Calcium 60500	P	i
7440-47-3 Chromium 1.6 U	P	i
7440-48-4 Cobalt 3.9 U	P	i t
7440-50-8 Copper 18.5 B	P	1
7439-89-6 Iron 2690	P	i I
7439-92-1 Lead 24.1 N_	F_	ļŢ
7439-95-4 Magnesium 8490	P	•
7439-96-5 Manganese 447 _	P_	١٠.
7439-97-6 Mercury	CV	u
7440-02-0 Nickel 12.4 U	P_	!
7440-09-7 Potassium 2440 B	P_	i ii
[7782-49-2 Selenium 0.90 U WN	{ F_ }	1
{7440-22-4 Silver4.3 U	P_	
7440-23-5 Sodium 10600 _	P_	
7440-28-0 Thallium 0.90 U	F_	J
7440-62-2 Vanadium_ 2.0 U	P_	U3
7440-66-6 Zinc 242	P_	
Cyanide	NR	
11	ii	!

<u>_</u>	P	4	.]	ے	
_		- 44	2.:	•	

	or Before:
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COLORLESS Clarity Before: CLEAR_

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

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FORM I - IN.

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TNORGANIC	ANALYSES	DATA	SHEET

EPA	SAMPLE	NO
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	•			•			MHDD44
Lab	Name:	SVL	_ANALYTICAL_INC	 Contract:	68-D5-0138	1	

Lab Code: SILVER Case No.: 24569 SAS No.: ____ SDG No.: MHBG97

Matrix (soil/water): WATER Lab Sample ID: MHDD44

Level (low/med): LOW__ Date Received: 04/12/96

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

,			7			
CAS No.	Analyte	Concentration	c	Q	М	1
7429-90-5	Aluminum	1860	-	[p	!
7440-36-0	Antimony	45.5	Ū		P	į
7440-38-2	Arsenic	0.90	U	N	F	一丁
7440-39-3	Barium	62:6	В	i	P	į
7440-41-7	Beryllium	0:20	U	1	P	į
7440-43-9	Cadmium	4.7	U		P	ľ
7440-70-2	Calcium	61600		i	P	1
7440-47-3	Chromium	.1.6	Ü		P	uJ
7440-48-4	Cobalt	3.9	U		P	1
7440-50-8	Copper	20.0	В		P	1
7439-89-6	Iron	2780			P	1
7439-92-1	Lead	53.8	[]	SN	F_	¦ J
7439-95-4	Magnesium	867,0			P	i i
7439-96-5	Manganese	450	_ !		P_	۲٠,
17439-97-6	Mercury	0.15	B		CV	¦U
17440-02-0	Nickel	12.4	U;		P_	ļu J
7440-09-7	Potassium	2700	В		P_	
7782-49-2	Selenium_	0.90	U	MM	F_	J
7440-22-4	Silver	4.3	U		P_	
7440-23-5	Sodium	11000	!		P_	
7440-28-0	Thallium_	0.90	U		F_	
7440-62-2	Vanadium_	2.5	В		P_	J
7440-66-6	Zinc	331	_!		P_	
	Cyanide		-!		NR	
	ii					i

			,	****		· · · · · · · · · · · · · · · · · ·	LR6/2/96
olor	Before:	COLORLESS	Clarity	Before:	CLEAR_	Texture:	
olor	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
					•		

lomments:

FORM I - IN

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INORGANIC	ANALYSES	DATA	SHEET

EPA	SAMPLE	ИО
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171.23	$\nu \nu$	·-	

Lab Name: SVL ANALYTICAL INC. ____ Contract: 68-D5-0138

Lab Code: SILVER

Case No.: 24569_ SAS No.: _____ SDG No.: MHBG97

Matrix (soil/water): WATER

Lab Sample ID: MHDD45

Level (low/med): LOW__

Date Received: 04/12/96

% Solids:

0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

	,	1	1	J	1	T	1
	CAS No.	Analyte	Concentration	Ċ	Q	М	!
	7429-90-5	Aluminum	37.4	B	!	P	} { !
	7440-36-0	Antimony	45.5	U		p_	
	7440-38-2	Arsenic	0.90	U	N	F	J
	7440-39-3	Barium	0.57	•	· ———	P	u
	7440-41-7	Beryllium	0.20	U		P	
	7440-43-9	Cadmium	4.7	U		P^{-}	
	7440-70-2	Calcium	40.3	В		P	u
	7440-47-3	Chromium	1.6			P .	
i	7440-48-4	Cobalt	3.9	U		P	
i	7440-50-8	Copper	2.9	U		P	
j	7439-89-6	Iron	8.7	U		P	υJ
i	7439-92-1	Lead	1.2	В	N	F	$[U, \mathcal{J}]$
i	7439-95-4	Magnesium	38.1	B		P .	u'
į	7439-96-5	Manganese	2.0	U	•	P	٠.
į	7439-97-6	Mercury	0.15	B		CV:	u
i	7440-02-0	Nickel	12.4	U		P	
į	7440-09-7	Potassium	262	U¦		p	
į	7782-49-2	Selenium_	0.90	Ü	MM	F_	T
İ	7440-22-4	Silver	4.7	B		P_;	
1	7440-23-5	Sodium	111	B¦		P_	и
1	7440-28-0	Thallium ;	0.90	U	W	F_;	${\cal J}$
1	7440-62-2	Vanadium_	2.0	U¦		P_;	
1	7440-66-6	Zinc	3.6	U¦		P_	
ţ		Cyanide_		_!		NR	
1			1	_			

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olor Before:	COLORLESS	Clarity	Before:	CLEAR_	Texture:	- (1-14)
olor After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts: _	·
omments:	•					

FORM I - IN

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INORGANIC	ANALYSES	DATA	SHEET

EFA SAMELE NO	EPA	SAMPLE	NO
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MHDD46

Lab Code: SILVER Case No.: 24569 SAS No.: ____ SDG No.: MHBG97

Lab Name: SVL ANALYTICAL INC. ____ Contract: 68-D5-0138

Matrix (soil/water): WATER

Lab Sample ID: MHDD46

Level (low/med):

LOW

Date Received: 04/12/96

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L_

,			1		T		1
CAS No.	- 1	Analyte	Concentration	С	Q ·	М	1
7429-90	-5	Aluminum	4060	-	!	$\frac{1}{P}$!
7440-36	•	Antimony_	45.5	Ū	ļ	P-	
7440-38	- 1	Arsenic	0.90		·	F	J.
7440-39	•	Barium :	143	•		P	, -
7440-41		Beryllium	0.24	,		P-	
7440-43		Cadmium	4.7	,		P-	i
7440-70	- *	Calcium	73800			P	į
7440-47		Chromium	1.6	Ū		P	עד
7440-48	. ,	Cobalt	3.9	ប		P	!
7440-50		Copper	4.1	•		P	i '
7439-89		Iron	5210			P	1
7439-92	-1	Lead	4.5	-	N	F	U.J
7439-95	-4	Magnesium	17900	_		P	i , .
7439-96	-5	Manganese	94.1	_		P)* ,*
7439-97	-6	Mercury	0.15	B		CV	u
7440-02	-0 [1	Nickel	12.4	U		P	uJ
7440-09	-7 i i	Potassium	2730	В		p.	l 1
17782-49		Selenium_;	0.90		WN	F_	丁
7440-22	•	Silver	4.3			P_	
7440-23		Sodium	8400			P_	_
7440-28		Thallium	0.90			F_	j
7440-62		Vanadium_	9.7	B		P	J
7440-66		Zinc	27.9	_!		P	
!	(Cyanide		-!		NR	•
1	¦_	i		- 1			

	-4	3/		,	
_	×	~/.	3	10	

Color Before	:	

BROWN .

Clarity Before: CLOUDY

Texture:

Color After:

BROWN

Clarity After: CLOUDY

Artifacts:

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FORM I - IN

EPA SAMPLE NO.

MEDD47

Lab Name: SVL ANALYTICAL INC. Contract: 68-D5-0138

Lab Code: SILVER Case No.: 24569 SAS No.: SDG No.: MHBG97

Matrix (soil/water): SOIL_

Lab Sample ID: MHDD47

Level (low/med):

LOW .

Date Received: 04/12/96

% Solids:

70.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

				,		
CAS No.	Analyte	Concentration	c	Q	M	1
7429-90-5	Aluminum	8210	-	ļ	P	
7440-36-0	Antimony_	12.9	Ū	!	P-	į
7440-38-2	Arsenic	11.2	•	SN	F	ijŢ
7440-39-3	Barium	155	-		P	
7440-41-7	Beryllium	0.53	B		P	
7440-43-9	Cadmium	4.9		*	p ⁻	
7440-70-2	Calcium	4070	_	·	P-	į
7440-47-3	Chromium	6.5	_		P	J
7440-48-4	Cobalt	11.7	B		P	
7440-50-8	Copper	130			P	i
7439-89-6	Iron	20000	_		P .	i
7439-92-1	Lead	· 334		\$,	F	
7439-95-4	Magnesium	4160	-		P_	
7439-96-5	Manganese	2470	-		P	٠.
7439-97-6	Mercury	0.07	υ		CV	
7440-02-0	Nickel	6.6	В	A-7730000	P	J
7440-09-7.	Potassium	1460	ĺ		P	
7782-49-2	Selenium_	0.25	Ū	WN	F	7
7440-22-4	Silver	3.0;	_		P	
7440-23-5	Sodium	81.1	B		P	
7440-28-0	Thallium	0.25	U	-	F	Ţ
7440-62-2	Vanadium_	21.8	1		P_	
7440-66-6	Zinc	1000	_		P_;	
! !	Cyanide;		_;		NR	
	!	-	_1			

LR4/2/96.

Color Before:	٠

BROWN

Clarity Before:

Texture: MEDIUM

Color After:

YELLOW

Clarity After:

Artifacts:

Comments:

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FORM I - IN

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EPA SAMPLE NO.

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Lab Name: SVL_ANALYTICAL_INC.____ Contract: 68-D5-0138

Lab Code: SILVER Case No.: 24569 SAS No.: SDG No.: MHBG97

Matrix (soil/water): SOIL_

Lab Sample ID: MHDD48

Level (low/med):

Date Received: 04/12/96

% Solids:

81.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

	CAS No.	Analyte	Concentration	C	Q.	M	
	7429-90-5	Aluminum	7070	-	!	P	!
	7440-36-0	Antimony_	11.2	111		P	
	7440-38-2	Arsenic_	10.7		SN.	F	1 🕝
	7440-39-3	Barium	281	-		p-	1 -
	7440-41-7	Beryllium	0.33	B		P-	!!!
	7440-43-9	Cadmium	498		*	p-	i en
	7440-70-2	Calcium	11600	-		ļ-	!
	7440-47-3	Chromium	6.0	-	-	P	1
	7440-48-4	Cobalt	13.3	-		- P	
	7440-50-8	Copper	284	;		P-	•
i	7439-89-6	Iron	. 24300	- ;		P-	l
i	7439-92-1	Lead	311	-	<u> </u>	F-	(
1	7439-95-4	Magnesium	4250		·	p-	! !
1	7439-96-5	Manganese	3060	}		p-	! !• ,
1	7439-97-6	Mercury		B		c⊽	t t
1	7440-02-0	Nickel	9.3	•		P	T
1	7440-02-0	Potassium	1500	- I		P-	, ,
1	7782-49-2	Selenium	0.22	-:		F	·
1	7440-22-4	Silver	8.7	٦,		p-	1.
1	7440-23-5	Sodium		B		P-	! !
1	7440-28-0	Thallium	0.22				T
į	7440-62-2	Vanadium	357	1		p-	, ,
1	7440-66-6	Zinc	28500	-;		p-	
1	1440-00-0	Cyanide		-!		NR	
1		Cyanade		-;		14.14	! !
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LR 4/2/96

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BROWN

Clarity Before:

Texture: MEDIUM

Color After: YELLOW

Clarity After:

Artifacts:

Comments:

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FORM I - IN

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EPA	SAMPLE	NO
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			•	•	MHDD49	1
Lab	Name:	SVL_ANALYTICAL_INC.	Contract:	68-D5-0138		1

Lab Code: SILVER Case No.: 24569_ SAS No.: _____ SDG No.: MHBG97

Matrix (soil/water): SOIL______ Lab Sample ID: MHDD49

Level (low/med): LOW___ Date Received: 04/12/96

% Solids: __70.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

	· · · · · · · · · · · · · · · · · · ·					
CAS No.	Analyte	Concentration	С	Q.	М	
7429-90-5	Aluminum	6030	-		P	
7440-36-0	Antimony	12.9	Ū	1	P	1
7440-38-2	Arsenic	8.5	į	SN	F	J
7440-39-3	Barium	112	-	i — —	P	į
7440-41-7	Beryllium	0:37	B	;	P	W.
7440-43-9	Cadmium	3.6	į	*	P	į
7440-70-2	Calcium	6520	<u> </u>		P	!
7440-47-3	Chromium	4.2	-		P	J
7440-48-4	Cobalt	7.8	B		P	•
7440-50-8	Copper	125			P	
7439-89-6	Iron	15900	_		P	ĺ
7439-92-1	Lead	226	_		F	į
7439-95-4	Magnesium	3440	_		p_	į
7439-96-5	Manganese	1570	_		P	
7439-97-6	Mercury	0.07	Ū		CV	
7440-02-0	Nickel	4.2	В		Р	J
7440-09-7	Potassium	1020	В		P	
7782-49-2	Selenium	0.25	υ	N	F	J
7440-22-4	Silver	1.9	В		P	
7440-23-5	Sodium	111	В		P	1
7440-28-0	Thallium	0.25	U		F	J
7440-62-2	Vanadium	16.2	1		P	
7440-66-6	Zinc	813	-		P .	l I
	Cyanide	,			NR) ;
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LR 4/2/96

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	COLORLESS	Clarity	After:		Artifacts:	
Comme	ents:						
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FORM I - IN

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EPA	SAMPLE	NO.

MHDD5	0

Lab Name: SVL_ANALYTICAL_INC._____ Contract: 68-D5-0138

Lab Code: SILVER Case No.: 24569 SAS No.: _____ SDG No.: MHBG97

Matrix (soil/water): SOIL_

Lab Sample ID: MHDD50

Level (low/med):

Date Received: 04/12/96

% Solids:

73.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

		,			,		
	CAS No.	Analyte	Concentration	С	Q	М	
	7429-90-5 7440-36-0 7440-38-2 7440-39-3	Aluminum_ Antimony_ Arsenic_ Barium_	6300 12.4 9.2 134	Ū -	sn	P	4
-	7440-41-7 7440-43-9 7440-70-2	Berýllium Cadmium Calcium	0.42 4.0 9610	B -	_*_	P_ P_ P_	7-
	7440-47-3 7440-48-4 7440-50-8 7439-89-6	Chromium_ Cobalt Copper Iron	5.0 9.7 142 17200	B -		P -	J
1 1 1	7439-92-1 7439-95-4 7439-96-5	Lead Magnesium Manganese	260 3830 1800	- -		F_ P_ P	· .
1 6 6 1 1	7439-97-6 7440-02-0 7440-09-7	Mercury Nickel Potassium	0.07 6.9 1080;	В		CV P_ P	J.
1 1 1	7440-22-4 7440-23-5	Selenium_; Silver Sodium	0.25 3.1 84.5	B	N	F_ P_ P_	J _
11 11 11 11	7440-28-0 7440-62-2 7440-66-6	Thallium Vanadium Zinc Cyanide 0.25 18.3 972			F_P_NR	J	
1				-			

LR 4/2/96

Color Before:	BROWN	Clarity Before:	·	Texture:	MEDIUM
Color After:	YELLOW	Clarity After:	***************************************	Artifacts:	
lomments:				•	
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EPA	SAMPLE	NO.
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Lab N	:sma	SVL_ANALYTICAL_INC	Contract:	68-D5-0138	!		

Lab Code: SILVER Case No.: 24569 SAS No.: ____ SDG No.: MHBG97

Matrix (soil/water): SOIL_ Lab Sample ID: MHDD51

Level (low/med): LOW____ Date Received: 04/12/96

% Solids: __66.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

	CAS No.	Analyte	Concentration	c	Q	M	
	7429-90-5	Aluminum	6350	-	<u> </u>	P	1
	7440-36-0	Antimony	13.7	Ū		P	į
	7440-38-2	Arsenic -	6.6	į	+N	F	J
	7440-39-3	Barium	226	-	i — —	P	1
	7440-41-7	Beryllium	0.55	B		P_	i i
	7440-43-9	Cadmium	. 1.6	i I	*	P_)
	7440-70-2	Calcium_	75000	!	!	¦P_	1
	7440-47-3	Chromium_	6.2	_		P	J
	7440-48-4	Cobalt	7.1	¦Β	1	P	1 1
	7440-50-8	Copper	22.4	t i		P_	l I
	7439-89-6	Iron	19400	_		{ P_	f I
	7439-92-1	Lead .	21.1		S	F	
	7439-95-4	Magnesium	9580			P_	! !
Ì	7439-96-5	Manganese	197	_		p_	٠.
1	7439-97-6	Mercury	0.08	В		CV	1
1	7440-02-0	Nickel	16.7	_ :		P_	J
1	7440-09-7	Potassium	2080	_		Ρ_	!
1		Selenium_;	0.92	B	MM	F_	J
ŧ		Silver	1.3	ܦ		P_	
1	7440-23-5	Sodium	126	B		P_	
1		Thallium_;	0.27	U		F_	J
1	7440-62-2	Vanadium_	24.7	_ !	<u> </u>	P_	
1	7440-66-6	Zinc	76.6	_ !		P_	
1		Cyanide	!	_ !		NR	
ŧ		:		_			

LR 4/2/96

Color Before:	BROWN	Clarity Before:	Texture: MEDIUM
Color After:	YELLOW	Clarity After:	Artifacts:
Comments:	•		
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EPA	SAMPLE	•	NO	
	•			

					MHDD52	. {
Lab Name:	SVL_ANALYTICAL_INC	Contract:	68-D5-0138	!	•	i

Lab Code: SILVER Case No.: 24569 SAS No.: SDG No.: MHBG97

Matrix (soil/water): SOIL_ Lab Sample ID: MHDD52

Level (low/med): LOW__ Date Received: 04/12/96

% Solids: __78.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

1	7	1	1	1		
CAS No.	Analyte	Concentration	C	Q	М	i ! !
7429-90-5	Aluminum	8210	!-	ļ ———	P	!
7440-36-0	Antimony	11.6	Ū	ļ ———	P	i
7440-38-2	Arsenic	8.2	į	SN	F	ijŢ
7440-39-3	Barium	180	i –	i — —	P	i
7440-41-7	Beryllium	0.54	B		P	i
7440-43-9	Cadmium	. 1.5) !	*	P	i -
7440-70-2	Calcium	21700	!_	!	P	1
17440-47-3	Chromium_	8.7		!	P_	J
7440-48-4	Cobalt	6.0	В		P_	1
7440-50-8	Copper	26.9	_		P_	-
¦7439-89-6	Iron	16600		<u> </u>	P_	1
7439-92-1	Lead	52.8	_		F_	l I
7439-95-4	Magnesium	5680	_		P_	l I
7439-96-5	Manganese	268	_		P_	٠.
7439-97-6	Mercury	0.34	_ :		CV	
7440-02-0	Nickel	14.4			P_	J
7440-09-7	Potassium	2480	_		P_	
7782-49-2	Selenium_	0.40	B	N	F_	J
7440-22-4	Silver	1.1	U¦		P_	
7440-23-5	Sodium	118¦	₽;		P_	
7440-28-0	Thallium_		U;		F_	J
7440-62-2	Vanadium_	24.4	_		P	
7440-66-6	Zinc	143	_1		P_	
	Cyanide		_!		NR	
	ļ		_ ¦			
·			- 1		·	

LR412/92

				 ''	
Color Befo	ore: BROWN_	Clari	ty Before:	 Texture:	MEDIUM
Color Afte	er: YELLOW	Clari	ty After:	 Artifacts:	•
Comments:			,	•	
	•				
		1	·		

FORM I - IN

REGION VIII SUMMARY OF CLP DATA QUALITY ASSURANCE REVIEW ORGANICS - VOA, BNA, PEST/AROCLOR

Case/SAS No.	Site Name		Operable Unit
24569	Durango Lea		
RPM Name		نده	
Pat Smith			
Contractor Laboratory	Contract No.	SDG No.	Laboratory TPO/Region
Industrial Environmental Analysts (IEA)	68-D5-0011	HG931	

Data Reviewer Bill Fear/Thad Corrigan
Review Completion Date June 5, 1996

Sample ID	Sample Location	Matrix	Analysis
HQ931	DL-SW-1	Water	CLP/RAS Volatile, Semivolatile and Pesticide/PCB
HQ932	DL-SE-I	Soil	
HQ933	DL-SW-2	Water	, , , , , , , , , , , , , , , , , , , ,
HQ934	DL-SE-2	Soil ,	
HQ935	DL-SW-6	Water	,
HQ936	LL-SW-1	Water	
. HQ937	DL-SW-7	Water	CLP RAS Volatile
HQ938	LL-SE-I	Soil	CLP/RAS Volatile, Semivolatile and Pesticide/PCB

DATA QUALITY STATEMENT*

	Data are ACCEPTABLE according to EPA Functional Guidelines with no qualifiers (flags) added by the reviewer. Data are UNACCEPTABLE according to EPA Functional Guidelines.
<u>·X</u>	Data are acceptable with QUALIFICATIONS noted in review.*
Teleph	one/Communication Logs Enclosed? Yes NoX
TPO A	ttention Required? Yes X No If yes, list the items that require on:
	The volatile analyses for samples HQ933, HQ935, and HQ937 were analyzed beyond the seven-day technical holding time for unpreserved water samples (see Section II).
•	The semivolatile analyses for samples HQ932 and HQ934 contained unreported TICs (see Section IX).
	The pesticide/PCB samples HQ933 and HQ935 were extracted beyond the seven-day technical holding times for water samples.

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^{*} Please see Data Qualifier Definitions attached to the end of this report.

ORĞANIC RAS DATA QUALITY ASSURANCE REVIEW REVIEW NARRATIVE SUMMARY

This data package was reviewed according to the EPA document "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," February, 1994.

Case 24569, SDG HQ931 consisted of eight (8) samples for CLP RAS volatile analyses and seven (7) samples for CLP RAS semivolatile and pesticide/PCB organic analyses.

The laboratory did not perform the required library search on all non-target sample components (see Semivolatile Section IX). All tentatively identified compounds (TICs) were qualified "NJ" - tentatively identified at an estimated concentration. TICs detected in the samples and associated blanks were qualified "R" rejected.

The following tables list all data qualifiers added to the data.

Sample Number	Volatile Compound	Qualifier	Reason for Qualification	Review- Section
HQ933, HQ935. · HQ937	Benzene, Toluene, Chlorobenzene, Ethylbenzene, Styrene, Total Xylenes	(I)	7-day technical holding time exceeded	
All	Acetone	ÜJ	Initial calibration RSDs > 30%	1V
HQ932, HQ934, HQ938	Chloroethane	ίυ	Initial calibration RSD > 30%	ĮV
HQ932, HQ934. HQ938	Bromoform, Tetrachioroethene	υı	Continuing calibration %Ds > 25%	[V

Sample Number	Semivolatile Compound	Qualifier	Reason for Qualification	Review Section
HQ931, HQ933,	Phenot.	UJ ,	Continuing calibration %Ds >	(V
HQ935, HQ936	Hexachlorocyclo-		25%	
	pentadiene, 2,4-			
•	Dinitrophenol,	•	j	
	Pentachlorophenol -]	
HQ932, HQ934,	Phenol. 2.4-	ÜJ	Continuing calibration %Ds >	ĮV ,
HQ938	Dinitrophenol		25%	

Sample Number	Pesticide Compound	Qualifier	Reason for Qualification	Review Section
HQ933, HQ935	All	[[]	7-day technical holding times	11
			 exceeded 	
All 1	beta-BHC	וט	Initial calibration %RSDs > 20%	V
All	4.4`-DDT	UJ		

ORGANIC RAS VOLATILE DATA QUALITY ASSURANCE REVIEW

SOW Number _ Revision _NA	-	AS Organic Data Completeness Checklist
P S P N P N	Summary Package Surrogate Recovery Summary (F MS/MSD Summary (Form III) Method Blank Summary (Form I GC/MS Tuning and Mass Calibra	V)
P C P R P Q P M	ckage Holding Times (SMO Sample Tra Drganic Analysis Data Sheets (Fo Leconstructed Ion Chromatogran Quantitation Reports Hass Spectral Data PA/NIH Mass Spectral Library	orm I) n(s) (RIC)
P In P V	Package furrent List of Laboratory/Instrumential Calibration Data (Form VI) ontinuing Calibration Data (Form Internal Standard Area Summary OA Standards RICs OA Standards Quantitation Rep	for each instrument n VII) for each instrument (Form VIII)
Raw QC Package PB	e FB mass spectra and mass listing	gs.
P RJ P Q P M	rganic Analysis Data Sheets (For IC or Total Ion Chromatogram uantitation Reports Jass Spectral Data PA/NIH Library Search for TICs	
P Oi P RI P Qu NR M	trix Spike Duplicate Data rganic Analysis Data Sheets IC uantitation Reports ass Spectral Data PA/NIH Library Search for TICs	
KEY:		•
R = NP = NR =	Provided in original data packag Provided as Resubmission Not provided in original data pac Not required under the SOW Not applicable to this data packa	ckage or as resubmission

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ORGANIC RAS VOLATILE DATA QUALITY ASSURANCE REVIEW

I.	DELIVERABLI	ES				
All de	liverables were pre	: sent as specifi	ied in the sta	tement of wo	ork.	
VOA:	Yes X	No _		سی	•	
Comm	ents:				•	
	None.				*	
	;		· · · · · · · · · · · · · · · · · · ·			•
п.	HOLDING TIM	ES			'	
All CL	P-SOW holding tir	nes were met		-		
VOA:	Yes X	No			•	÷.
Comm	ents:			•		
	None.			•		
All 40	CFR Part 136 tech	nical holding	times, were r	net.		
VOA:	Yes	No _X		•	·	
Comme	ents:	·	,			,
	! It was not clear as	to whether th	ne water sam	ples were ac	id preserved. The	case narrative

It was not clear as to whether the water samples were acid preserved. The case narrative indicated a pH less than 2, however, the volatile pH log indicated a pH of 6. It is assumed that the water samples were not acid preserved and the aromatic compounds in samples HQ933, HQ935, and HQ937 were qualified accordingly.

The following table lists samples that were analyzed outside technical holding times:

Sample Number	Days Outside Limits	Compound	Qualifier
HQ933, HQ935,	1	Benzene, Toluene, Total Xylenes,	. Ci
HQ937		Ethylbenzene, Chlorobenzene, Styrene	

CE RESULTS		
were within the sp	pecified control limits. All appropria	te BFB
No	_	
•	×*	
LIBRATIONS: E	NITIAL AND CONTINUING STA	ANDARDS
•		
		iet the
No X	.	
•		
onal guideline crite	eria. The following table lists the %1	
%RSD	Associated Sample	Qualifier
39.5	HQ931, HQ933, HQ935, HQ936, HQ937	ເນ
33,8	HQ932, HQ934, HQ938	UJ.
33.0		
		d met
	No	No

. Compound	%Difference i	Associated Sample		Qualifier	
Bromoform	30.7	HQ932, HQ934, HQ938	1		
Tetrachloroethene	25.1		i		

1		
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	gate compos s met specifi			as performed a	eccoraing to 20	y requirement	is and
VOA:	Yes X	:	No	· ·		*	
Comm	ients:		•	أنبوس	*		
	None.					•	
VI.	MATRIX	SPIKE/M.	ATRIX SPI	KE DUPLIC	ATE		
					is was performed d precision limits		sow
VOA:	Yes X	· .	. No				•
Comm	ents:		,				
	None.	•					
VΠ.	INTERNA	L STAND.	ARD AREA		•		
specifie	l standard a ed control li Yes <u>X</u>		was perform	_	to SOW require	ments and resu	ilts met
Comme	ents:			•	•		•
	None.		•			•	
VIII.	LABORA	FORY BL	NK ANAL	YSIS RESUI	LTS .		
	oratory blar d control lir		vas perform	ed according t	o SOW requirem	ients and resul	ts met
VOA:	Yes X		No				•
Comme	ents:				•		
	No contami	nants were	found in the	volatile metho	od blanks or stor	age blank.	
-	No tentativ	ely identifie	d compound	s (TICs) were	found in the vol.	atile blanks an	d samples
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SURROGATE COMPOUND RECOVERY

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IX. SAMPLE RESULTS

The sample results were reviewed and all compound identifications were acceptable and met contract requirements.

VOA: Yes <u>X</u> No ____

Comments:

None.

X. ADDITIONAL COMMENTS OR PROBLEMS/RESOLUTIONS (not addressed above)

VOA:

None.

ORGANIC RAS SEMIVOLATILE DATA QUALITY ASSURANCE REVIEW

SOW Numb Revision N	er OLMO3.0	R	AS Organic Data	Completeness	Checklist
Quality Cont P P P P	rol Summary Pack _Surrogate Reco _MS/MSD Sumn _Method Blank S _GC/MS Tuning	very Summary (F nary (Form III)	(V)		
Sample Data P P P P P P	Package _Holding Times (_Organic Analysi _Reconstructed I _Quantitation Re _Mass Spectral D _EPA/NIH Mass	s Data Sheets (Fo on Chromatogram ports ata	orm I) m(s) (RIC)		
	Current List of I Initial Calibration Continuing Calib Internal Standard SVOA Standard SVOA Standard	n Data (Form VI tration Data (For I Area Summary s RICs s Quantitation Re	m VII) for each ii (Form VIII) eports	nent	
Reagent Blan P P P P P P	_DFTRP mass spe k Data _Organic Analysis _RIC or Total Ion _Quantitation Rep _Mass Spectral Da _EPA/NIH Librar	Data Sheets (Fo Chromatogram onts ata	orm I)		
	Matrix Spike Dupl Organic Analysis RIC Quantitation Rep Mass Spectral Da EPA/NIH Librar	Data Sheets orts ata	ŝ		
KEY: P R NP NR NR	= Provided in ori = Provided as Re = Not provided in = Not required un = Not applicable	submission noriginal data pander the SOW	ckage or as resub		

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ORGANIC RAS SEMIVOLATILE DATA QUALITY ASSURANCE REVIEW

All deliverables were present as specified in the statement of work. BNA: Yes X No Comments:	
Comments:	٠.
1	
None.	-
П. HOLDING TIMES	
All CLP-SOW holding times were met.	
BNA: Yes X No	
Comments:	
None	
All 40 CFR Part 136 technical holding times were met.	,
BNA: Yes X No No	ě.
Comments:	
None.	5
III. DFTPP PERFORMANCE RESULTS	
The DFTPP performance results were within the specified control limits. All appropriate DFT results were included.	PP
BNA: Yes X No	÷.
Comments:	
None.	
	-

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INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING STANDARDS Initial instrument calibrations were performed according to SOW requirements and met the specified control limits listed in the functional guidelines. BNA: Yes X Comments: None. Continuing instrument calibration was performed according to SOW requirements and met specified control limits listed in the functional guidelines. No X BNA: Yes _____ Comments: 11.3 The continuing calibrations met all SOW criteria. However, the %Ds for several compounds were outside the functional guideline criteria. The following table lists the %Ds for compounds which exceeded criteria (25%): Compound %Difference Associated Sample Qualifier Phenoi 25.4 HQ931, HQ933, HQ935, HQ936 UJ Hexachlorocyclopentadiene 25.2 - 2.4-Dinitrophenol 39.4 Pentachlorophenol 25.3 Phenol. 26.2 HQ932, HQ934, HQ938 UJ 2.4-Dinitrophenol 55.7 V. SURROGATE COMPOUND RECOVERY Surrogate compound recovery analysis was performed according to SOW requirements and results met specified control limits.

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BNA: Yes X

Comments:

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No _____

SIT	ALL TREES	CDITATE ALL	TOTY COTTLE	DIDITOLOGE
VI.	DIATELY.) LIVE/ ME	TIME THE	DUPLICATE

Matrix Spike	Matrix Spike	Duplicate (MS/MSD	i) analysis was	performed	according to	SOW
		t recommended reco				

DIA. 16

No X

Comments:

Samples HQ931 and HQ932 were spiked with matrix spiking compounds. All recoveries and RPDs were within QC limits in the MS/MSD analyses performed on sample HQ932 (soil matrix). The following table lists the MS/MSD results that were outside criteria in the MS/MSD analyses performed on sample HQ931:

1.5	, 9,	6R	1 7 8 7	Control Limits
Compound	MS	MSD	RPD	%R
4-Nitrophenol	81	97	1.	10-80
Pentachlorophenol		120	••	9-103

No qualifiers were added to the data as organic sample results are not qualified based solely on MS/MSD results.

These compounds were not found in the associated sample:

VII. INTERNAL STANDARD AREA

Internal standard area analysis was performed according to SOW requirements and results met specified control limits.

BNA: Yes X

No .

Comments:

The incorrect area count was reported for the internal standard phenanthrene-d10 on Form S for the 4/22/96 12-hour standard. All samples are within QC limits when compared to the correct area count.

Additionally, the method blanks were not reported on the Form 8 for the 4/19/96 analyses. The raw data were used to evaluate and verify that the areas and retention times were within control limits.

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VIII. LABORATORY BLANK ANALYSIS RESULTS

The Laboratory blank ana	lysis was pe	rformed ac	cording to	SOW	requirements	and results	met
specified control limits.							
•	•						

BNA: Yes X No

Comments:

The blank was not contaminated with target analytes. However, the water matrix blank (SBLKH1) was contaminated with two TICs and the soil matrix blank (SBLKH2) was contaminated with 3 TICs.

All TICs in the associated samples were previously qualified "NJ" - estimated tentatively identified compounds in the Review Summary. The following table lists blank results, associated samples and qualifiers added to the data.

	Blank ID	Extraction Date	TIC Retention Time	Associated Sample	Qualifier
	SBLKHI	4-16-96	4.13	Waters	Noner
	SBLKHI	4-16-96	4.38	HQ931	R
Γ	SBLKH2	4-17-96	4.24	HQ932, HQ934, HQ938	R
Γ	SBLKH2	4-17-96	3,82		
Ŀ	SBLKH2	4-17-96	5.07		

^{*} The TIC at 4.13 minutes in SBLKH1 was not found in the associated samples

The laboratory did not flag the TIC at retention time 5.07 minutes in the associated samples with the "B" qualifier.

The TIC at retention time 4.38 in sample HQ931 was not reported on the Form 1F but was reported as a cyclic alkane in the narrative. However, mass spectra verify that this is the same TIC found in the blank.

IN. SAMPLE RESULTS

The sample results were reviewed and all compound identifications were acceptable and met SOW requirements.

BNA: Yes _____ No X

Comments:

A potential TIC peak at retention time 14.3 minutes in sample HQ932 and several late eluting peaks in sample HQ934 were not searched for, identified, or reported.

The TIC at retention time 4.23-4.27 minutes in the soil analyses was identified as an aldol condensation product. This TIC was also identified as a blank contaminant and was, therefore, rejected. No further action is taken.

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N. ADDITIONAL COMMENTS OR PROBLEMS/RESOLUTIONS (not addressed above)

BNA

None

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ORGANIC RAS PESTICIDE/AROCLOR DATA QUALITY ASSURANCE REVIEW

	- 4
SOW Number Revision NA	OLMO3 0 RAS Organic Data Completeness Checklist
P S P N	Summary Package Surrogate Recovery Summary (Form II) MS/MSD Summary (Form III) Method Blank Summary (Form IV) GC/MS Tuning and Mass Calibration (Form V)
Sample Data Pa	ckage
P F P P P P P P P P P P P P P P P P P P	Holding Times (SMO Sample Traffic Reports) Organic Analysis Data Sheets (Form I) GC/EC Chromatogram(s) esticide Identification Summary for Single Component Analytes (Form X-1) - for ositive results only esticide Identification Summary for Multicomponent Analytes (Form X-2) - for ositive results only
P P P P P P P P P P P	Package furrent List of Laboratory/Instrument Detection Limits esticide Initial Calibration of Single Component Analytes (Form VI-1 2) esticide Initial Calibration of Multicomponent Analytes (Form VI-3) esticide Analyte Resolution Summary (Form VI-4) esticide Calibration Verification Summary (Form VII-1,2) esticide Analytical Sequence (Form VIII) esticide Florisil Cartridge Check (Form IX-1) esticide GPC Calibration (Form IX-2) esticide/Aroclor Standard Chromatograms and Data System Printouts
Reagent Blank D P O P G	rganic Analysis Data Sheets (Form I) C/EC Chromatograms and Data System Printouts
<u>P</u> _0	trix Spike Duplicate Data rganic Analysis Data Sheets C/EC Chromatograms and Data System Printouts
KEY	
R = NP = . NR =	Provided in original data package, as required by the SOW Provided as Resubmission Not provided in original data package or as resubmission Not required under the SOW Sold applicable to this data package or analysis

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ORGANIC RAS PESTICIDE/AROCLOR DATA QUALITY ASSURANCE REVIEW

I. DELIVER	RABLES		
All deliverables we	erë ^t present as specified in	the statement of work	
PEST/AROCLOR	Yes X	No	
Comments			
None '			
	· ·;	•	
n. Holding	TIMES	•	
All CLP-SOW hole	ding times were met		••
PEST/AROCLOR	Yes X	No	
Comments	1	•	
None	-		
	•		
All 40 CFR Part 13	6 technical holding times	were met	
PEST/AROCLOR	Yesi	No <u>X</u> .	• •
Comments	1		
	ory receival temperature at no problems were enco	was not reported. However, the case ountered	narrative
The extracti	on for two water sample	s was completed I day outside the tecl	nnical holding
The following	ng table lists samples that	were extracted outside technical hold	ing times
	Days Outside Limits/		0 1 =
Sample Number HQ933 HQ935	Extraction or Analysis 1/Extraction	Compound All	Qualitier UJ
	.,	411	

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The breakdown of a less than 30%	4,4'-DDT and	of Endrin was l	ess than 20% and the co	ombined breakdown was
PEST/AROCLOR	Yes X	No		
Comments	t t			
None	1		, *	•
The decachlorobiph the specified control		d tetrachloro-m	-xylene (TCX) retentio	n time shifts were within
PEST/AROCLOR	Yes X	No		•
Comments	4			
None	1 -			
Initial instrument cal specified control lim			ording to SOW requirer elines	ments and met the
PEST/AROCLOR	Yes	No <u>_</u> >	<u> </u>	
Comments	•			
compounds v	vere outside th		ments However, the % deline criteria. The foliteria (20%)	
Compound	% R	SD	Associated Sample	Qualifier
beta-BHC	21		All	UJ
14-DDT	1 22	9	***************************************	
,	-			•
Continuing instrumer specified control limit	nt calibration wits listed in the	as performed a functional guide	ccording to SOW requelines	rements and met
PEST/AROCLOR	Yes _X	No		•
Comments				
None				
				•
				,
	•			~

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VIII. ADDITIONAL COMMENTS OR PROBLEMS/RESOLUTIONS (not addressed above)

PEST/AROCLOR

The various GRQLs for the water samples were not reported with two significant figures. In addition, various CRQLs for the soil sample HQ934 did not appear to be rounded correctly after being adjusted to account for its percent solids.

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VOLATILE ORGANICS ANALYSIS DATA SHEET

H0931

Lab Name: IEA+NU	Contract: 63D50011
Lap Code. <u>IEANJ</u> Case No <u>24569</u>	SAS No.: SDG No · HO931
Matrix: (soil/water) Water	Lap Sample ID: <u>61422001</u>
Sample wc/vol: $\frac{5}{2}$ (g/mL) ml	Lab File ID: A8080
Level: (low/med) LOW	Date Received: 04/12/95
% Moisture. not dec.	Date Analyzed: 04/17/96
GC Column: <u>RTX-524</u> ID: <u>0.53</u> (mm)	Dilution Factor: 1.0
Soil Extract Volume;(uL)	Soil Aliquot Volume:(uL)

СОМРОЙИО

CAS NO.

CONCENTRATION UNITS: (ug/L or ug/Kg)ug/l

67-66-3 Chloroform 107-06-2 1,2-Dichlor 1,2-Dichlor 78-93-3 2-Butanone 71-55-6 1,1,1-Tric 56-23-5 Carpon Tet: 75-27-4 Bromodichlor 73-87-5 1,2-Dichlor 10061-01-5 cis-1,3-Dic 79-01-6 Trichloroes 124-43-1 Dibromochlor 79-00-5 1,1,2-Tric 1,1,2-Tric 1,1,2-Tric 1,1,2-Tric 1,1,2-Tric 1,1,2-Tric 1,1,2-Tric 1,1,2-Tric 1,1,2-Tric 1,1,2-Tric 1,1,2-Tric 1,1,2-Tric 1,1,2-Tric 1,1,2-Tric 1,1,2-Tric 1,2-Tric 1,1,2-Tric 1,2-Tric 1,1,2-Tric 1,1,2-Tric 1,2-Tric 1,2-	ne ride ne Chloride ulfide roetnene roetnane roetnene(total)		10 10 10 10 10 10 10 10 10 10 10 10	ָ ע ע ע ע ע	
74-33-9 Bromometha 75-01-4 Vinvl,Chlo 75-00-3 Cnloroetha 75-09-2 Methylene 67-54-1 Acetone 75-15-0 Carbon Dis 75-35-4 1,1-Dichlo 75-34-3 1,1-Dichlo 540-59-0 1,2-Dichlo 67-66-3 Chloroform 107-06-2 1,2-Dichlo 78-93-3 2-Butanone 71-55-6 1,1,1-Tric 56-23-5 Carbon Tet: 75-27-4 Bromodichlo 73-37-5 1,2-Dichlo 10051-01-5 cis-1,3-Dic 79-01-6 Trichloroe 124-43-1 Dibromochlo 79-00-5 1,1,2-Tric	ne ride ne Chloride ulfide roetnene roetnane roetnene(total)		10 10 10 10 10 10 10 10 10	0 0 0 0	 - -
75-01-4 Vinvlichlo 75-00-3 Cnloroetha 75-09-2 Methylene 67-54-1 Acetone 75-15-0 Carbon Dis 75-35-4 1,1-Dichlo 75-34-3 1,1-Dichlo 540-59-0 1,2-Dichlo 67-66-3 Chloroform 107-06-2 1,2-Dichlo 78-93-3 2-Butanone 71-55-6 1,1,1-Tric 55-23-5 Carbon Tet: 75-27-4 Bromodichlo 73-37-5 1,2-Dichlo 10051-01-5 Cis-1,3-Dic 79-01-6 Trichloroes 124-43-1 Dibromochlo 79-00-5 1,1,2-Tric	ride ne Chloride ulfide roetnene roetnane roethene(total)		10 10 10 10 10 10 10 10 10	U U U U	105
75-00-3 Cnloroetha 75-09-2 Methylene 67-64-1 Acetone 75-15-0 Carbon Dis 75-35-4 1,1-Dichlo 1,2-Dichlo 67-66-3 Cnloroform 107-06-2 1,2-Dichlo 78-93-3 2-Butanone 75-27-4 Bromodichlo 73-37-5 1,2-Dichlo 10051-01-5 cis-1,3-Dichlo 124-43-1 Dibromochlo 79-00-5 1,1,2-Tric 1,2-Tric 1,1,2-Tric	ne Chloride ulfide roetnene roetnane roethene(total)		10 10 10 10 10 10 10 10	U U U U	- 105 - 105
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67-66-3 Caloroform 107-06-2 1,2-Dicalor 1,2-Dicalor 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,1-Tric 1,		-	101	Ü	-
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78-93-3 2-Butanone 71-55-6 1,1,1-Tric 55-23-5 Carbon Tet: 75-27-4 Bromodical 73-87-5 1,2-Dicalon 10061-01-5 cis-1,3-Dic 79-01-6 Fricaloroas 124-43-1 Dibromocalon 79-00-5 1,1,2-Tric	roethane	· - i	10	Ü	-11
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79-01-5 Frichloroes 124-43-1 Dibromochlo 79-00-5 1,1,2-Tric	roprobane		10	Ü	71
124-43-1 Dipromocale 79-00-5 1,1,2-Tric	chloropropene		10	Ų	7
79-00-5 1,1,2-Tric:	inene	-	10	Ū	
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2	nioroethane		10	Ü	7
71-43-2 Benzene			10 (Ü	7
10061-02-6 Trans-1,3-1	Dichloropropene		10 1	Ū	7
75-25-2 Bromoform	+		10 1	Ü	7
108-10-1 4-Mecnyl-2-	-Pentanone		10	Ū	1
591-78-5 2-Hexanone			10	Ü	7
127-18-4 Tetrachloro	pethene		10 1	Ű	7]
108-83-3 Toluene			10	ΰ	7[
79-34-5 1,1,2,2-Tet	rachloroethane	1	10	Ü	7 .
108-90-7 Chloropenza	ene	i	7 10 i	ij	7
100-41-4 Ethylpenzer	<u>:e</u>		201	Ú	7]
100-42-5 Styrene		Ī	(2)	Ü	1
1330-20-7 Total Xvie:		/=	V0	ij	-;1

FORM I VOA

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EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

HQ931

Lab Name <u>IEA-NJ</u> Co	ontract: <u>68050011</u>	
Lab Code. <u>IEANJ</u> Case No.: <u>24569</u> SAS		
Matrix (soil/water) Water	Lab Sample ID: <u>81422</u>	001
Sample wt/vol $\frac{5}{}$ (g/mL) $\frac{ml}{}$. · Lab File ID: <u>A8080</u>	- ·
Level: (low/med) LOW_	Date Received: 04/12	/95
% Moisture: not dec	Date Analyzed: 04/17	/95
GC Column: <u>RTX-624</u> ID: <u>0 53</u> (mm)	Dilution Factor: 1 0	
Soil Extract Volume:(uL)	Soil Aliquot Volume.	(uL)

CONCENTRATION UNITS: (ug/L or ug/Kg)ug/l

Number TICs Found: Q

Number TICs For	ina: <u>U</u>	(ug/L or ug/	xg/ <u>uu/</u> 1	
CAS NUMBER	COMPOUND NAME	RT	EST. CONC	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

HQ932 Lab Name. <u>IEA-NJ ' ' .</u> ______Contract: 63D50011 Lap Code: IFANJ - Case No. 24569 SAS No. . SDG No. HO931 Matrix: (soil/water)Soil Lab Sample ID. <u>61422004</u> Sample wc/vol: $\frac{1}{5}$ (g/mL)g_ Lab File ID A3123 Date Received. 04/12/96__ Level· (low/med) ; LOW___ Date Analyzed. 04/18/95 % Moiscure: not dec. 24 Dilution Factor: 10 GC Column: RTX-624 : ID: 0.53 (mm) Soil Aliquot Volume (uL) Soil Extract Volume ____(uL)

CONCENTRATION UNITS.

CAS NO	COMPOUND	(ug/L or ug/Kg)ug/kg	Q	,
74-37-3	Cnloromechane	13	 ប	1
74-83-9		13	Ū	7
75-01-4	Vinyl: Chloride	13 أ	· Ü	7(
75-00-3	Chloroethane	13 /	Ü	705
75-09-2	Methylene Chloride	. 13	Ü	
57-54-1	Acetone	13	Ü	705
75-15-0	Carbon Disulfide	13 !	Ų	1
75-35-4	1,1-Dichloroethene	13	Ü	7)
75-34-3	1,1-Dichloroethane	. 13 (Ū	7
540-59-0	11,2-Dichlorosthens(total)	13	U	7
57-55-3	Chloroform	13	Ü	7
107-05-2	1,2-Dichloroethane	1 13	Ü	7
78-93-3	2-Butanone	13	Ü	7
71-55-6	1,1,1-Trichloroethane	13	Ü	7
55-23-5	Carpon Tetrachlorida	13	Ű	1
75-27-4	Bromodichloromethane	13 (U	7]
73-37-5	11,2-Dichloropropane	13 1	Ũ	7]
10051-01-5	/ cis-1,3-Dichloropropens	13	Ü	7)
79-01-5	Trichloroethene	13	ij.	71
124-48-1	Dipromochioromethane	_ _ 13	Ü	TI .
79-00-5	1,1,2-Trichloroethane	13	Ü	71
71-43-2	Benzene	13	Ū	7
10051-02-5	Trans-1, 3-Dichloropropene	1 13	Ü	٦]
75-25-2	Bromoform	1 13 1	Ū	TUT
103-10-1	4-Metnyl-2-Pencanone	13	Ū.	1
591-73-5	2-Hexanone	13 1	Ü	TI
127-13-4	Tetrachloroethene	13	Ū ·	105
108-38-3	Toluene	13	Ũ	
79-34-5	! 1,1,2,2-Tetrachioroethane	13	ΰ	71
103-90-7	Chloropenzene	1 13	Ü	7
100-41-4	Ethylpenzene	- 1 13 1	Ū	7
100-42-5	Styrene	.13	Ű	7

FORM I VOA .

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VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: IEA-NJ	Contract	<u> 53D50011</u>	HQ932
ı Lap Code: <u>IEANJ</u> Case No . <u>24569</u>	SAS No ·	SDG No.:	<u> HQ931</u>
Matrix (soil/water) <u>Soil</u>		Lab Sample ID	51422004
Sample wc/vol· 5. (g/mL) g		Lab File ID·	A8123
Level. (low/med) Low	• · · · · · · · · · · · · · · · · · · ·	Dace Received	04/12/95
Moisture. not dec. 24		Dace Analyzed:	04/18/96
GC Coluπn· <u>RTX-624</u> ID· <u>0 53</u> (mm)	Dilution Facto	or. <u>1 0</u>

CONCENTRATION UNITS (ug/L or ug/Kg)<u>ua/kg</u>

Soil Aliquot Volume: ____(uL)

Number TICs Found . , 0

____(uL)

Soil Extract Volume!

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CAS NUMBER	COMPOUND NAME	-	RT	EST. CONC.	Q
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FORM I VOA-TIC

HQ933

1A EFA SARGED NO. VOLATILE ORGANICS ANALYSIS DATA SHEET _____

Contract. <u>63D50011</u>

CONCENTRATION UNITS:

Lap Code: IEANJ Gase No. 24569 SAS No. . SDG No HQ931

Lao Name <u>IEA-NJ</u>

Lab Sample ID 61422007-Matrix: (soil/water) Water

Sample wt/vol· 5 (g/mL)rl Lab File ID: A8083

Date Received: 04/12/96 Level: (low/med) ; LOW

Date Analyzed 04/17/96 % Moisture: not dec. ___

GC Column: RTX-624 | ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume (uL) Soil Aliquot Volume: ____(uL)

CAS NO.	COMPOUND	(ug/L or ug/Kg)ug/l	Q
74-87-3	Chloromethane	10	υ
74-93-9	Bromomethane	. 10	
75-01-4	Vinyl Chloride	10	
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	<u> </u>
57-64-1	Acetone	10	UU
75-15-0	Carpon Disulfide	īŌ	
75-35-4	1,1-Dichloroethene	1 10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene(cotal)	10	i U
67-66-3	Coloroform	1 10	10
107-05-2	1,2-Dichloroethane	i 10	1 0
78-93-3	2-Butanone	<u> </u>	Ü
71-55-6	1,1,1-Trichloroethane	10	
56-23-5	Carbon Tetrachloride	10	
75-27-4	Bromodichloromethane	10	TU
73-87-5	1,2-Dichloropropane	10	TU
10061-01-5	cis-1,3-Dichloropropene	10	i U
79-01-5	Trichloroethene	10	U
124-43-1	Dipromocnioromethane	10	i ü
79-00-5	1,1,2-Trichloroethane	1 10	Ü
71-43-2	Benzene	10	1 0 0
10061-02-6	Trans-1,3-Dichloropropens	10	· U ·
75-25-2	Bromotorm	<u> </u>	1 0
108-10-1	4-Mecavi-2-Pescanone	10	1 0
591-73-5	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	TU
108-88-3	Toluene	10	
79-34-5	1,1,2,2-Tetrachloroethans		
108-90-7	Chloropenzene	1 10	
	Etnylpenzene	10	
100-42-5	Styrene	10	1
	Total Kylenes	i <u> </u>	

FORM I VOA

7= Gliz/90

OLM03 0

EPA SAMPLE NO 1

! מתקונת מחמת מחקור :

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lap Name · IFA-NJ	Contract: 63D50011	HQ933
Lab Code <u>IEANJ</u> Case No <u>24569</u>	SAS No : SDG No ·	<u>HQ931</u>
Matrix. (soil/water) Water	Lap Sample ID	. <u>51422007</u>
Sample we/vol: 5 (g/ml)ml	Lab File ID·	<u> </u>
Level: (low/med). LOW	Date Received	. 04/12/96
% Moisture: not dec.	Date Analyzed	: 04/17/95
GC Column. <u>RTX-624.</u> ID: <u>0 53</u> (mm) Dilucion Facto	or: 1.0
Soil Extract Volume(uL)	Soil Aliquot V	/olume:(uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/l

Number TICs Found: 0

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FORM I VOA-TIC

COONS.1 PA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

HQ934
Lab Name. IEA-NJ _____ Contract: 63D50011 _____

Lab Code IEANJ dase No : 24569 SAS No. ._____ SDG No .: HQ931

Matrix. (soil/water) Soil Lab Sample ID: 61422008

Sample wc/vol 5 __(g/mL)g Lab File ID: A8126

Level (low/med) LOW Date Received: 04/12/95

Moisture: not dec. 21 Date Analyzed: 04/18/96

GC Column · RTX-524 ! ID. 0.53 (mm) Dilucion Factor: 1.0

Soil Extract Volume: ____(uL) Soil Aliquot Volume: ____(uL)

CAS NO. COMPOUND ' CONCENTRATION UNITS:'

(ug/L or ug/Kg) ug/kg Q

				7)
74-87-3	Chloromethane	13	U	
74-83-9	Bromometname ·	13	- U	7
75-01-4	Vinvl Chloride	13	Ŭ	71
75-00-3	Cnloroetnane	13	Ü	705
75-09-2	Methylene Chloride	13	Ũ	1 -
57-54-1	Acetone	13	Ŭ	105
75-15-0	Carbon Disulfide	13	Ū	7
75-35-4	1,1-Dichloroethene	13	U	
75-34-3	1,1-Dichloroethane	13	Ū	1
540-59-0	1,2-Dichloroethene(total)	13	Ū	1
67-66-3	Coloroform	1 13)	Ū	7)
107-05-2	1,2-Dichlorostnane	13	Ū	1
73-93-3	2-Butanone	13	Ū	1]
71-55-6	11,1,1-Trichloroethane	13	U	7
55-23-5	Carpon Tetrachloride	13	Ū	7
75-27-4	Bromodichloromethane	13	Ü	71
78-37-5	1,2-Dichloropropane	13	Ū	7
10051-01-5	cis-1,3-Dichloropropene	13	Ţ	7)
79-01-5	Trichloroethene	1 13	Ū	71
124-48-1	Dipromochioromethane	13	Ū	1
79-00-5	1,1,2-Trichloroethane	131	Ū	7[
71-43-2	l Benzene	13	Ü	7]
10051-02-5	Trans-1,3-Dicaloropropene	1 13	U	7)
75-25-2	Bromoform	13	Ū	105
108-10-1	4-Metnvl-2-Pencanone	23	_ 0	1
591-73-5	2-Hexanone	13	ਹ	1
127-13-4	Tetrachloroeinene	13	Ü	105
108-33-3	Toluene	13	U	11.
79-34-5	1,1,2,2-Tetrachioroethane	1 13	Ū	il i
108-90-7	Chloropenzene	13	Ų	1
190-41-4	Echvipenzene	13	Ü	1
200-42-5	Styrene	13 [Ü	il
1330-20-7	LTotal, Xvlenes	1 13 1	Ū	il

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EPA SAMPLE NO VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

H0934

Lab Name: <u>IEA-NJ</u>	Contract 63D50011
Lab Code: <u>IEANJ</u> Case No.: <u>24569</u> S	SAS No SDG No. HQ931
Macrix. (soil/water) Soil	Lab Sample ID: <u>61422003</u>
Sample wt/vol: 5 (g/mL)g	Lab File ID A8126
Level: (low/med) LOW .	Date Received: 04/12/96
% Moisture: not dec. 21	Date Analyzed: 04/13/95 .
GC Column: RTX-624 ID: 0.53 (mm)	Dilucion Factor 1.0
Soil Extract Volume:(uL)	Soil Aliquot Volume:(uL)

CONCENTRATION UNITS: (ug/L or ug/Kg)ug/kg

Number TICs Found: 0

CAS NUMBER	: COMPOUND NAME	RT	EST. CONC.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

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Lab Name: <u>IEA-NJ</u> _____ Contract: <u>53D50011</u> Lab Code. IEANJ Case No : 24569 SAS No .: ____ SDG No : HO931-Matrix: (soil/water) Water Lab Sample ID. <u>51422009</u> <u>5 (g/mL) ml</u> Sample wt/vol: Lab File ID: A8084 Date Received: 04/12/96 Level: (low/med) LOW_ Date Analyzed: 04/17/96 የ Moisture: not dec. ____ GC Column: <u>RTX-624</u>; ID: <u>0.53</u> (mm) Dilution Factor: 1 0

Soil Extract Volume: [____(uL)

CAS NO. COMPOUND

CONCENTRATION UNITS: (ug/L or ug/Kg)ug/l (

Soil Aliquot Volume: ____(uL)

10 0 0 10 10 0 10 10			3 3	
74-83-9	74-97-3	Chloromeshane	10	11
75-01-4 Vinvi Chloride 10 U 75-00-3 Chlorocthane 10 U 0 0 0 0 0 0 0 0				
75-00-3				
75-09-2 Methylene Chloride				
10				
75-15-0 Carbon Disulfide				
75-35-4				
10				
10		1 2 2 51011201000110110		
10 U 107-06-3				- 11
107-06-2				
78-93-3 2-Butanone 10 U				
71-55-5				
10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 1				
10 0 0 0 0 0 0 0 0 0				
10 U 10 10 U 10 10 U 10 10				
10051-01-5 Cis-1,3-Dichloropropene				
10 U 124-43-1 Dibromochloromethane 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U				
124-43-1				
79-00-5 1,1,2-Trichloroethane 10 U U U U U U U U U				
		Dipromochloromechane		
10051-02-5 Trans-1,3-Dichloropropene		1,1,2-Trichloroethane	10	
10 0 0 0 0 0 0 0 0 0		Benzene	10	U
108-10-1 4-Metnyl-2-Pentanone 10 U 591-78-6 2-Hexanone 10 U 127-13-4 Tetrachloroethene 10 U 109-88-3 Toluene 10 U 79-34-5 1,1,2,2-Tetrachloroethane 10 U 108-90-7 Chlorobenzene 10 U 100-41-4 Ethylbenzene 10 U 100-42-5 Styrene 10 U	10051-02-5	Trans-1,3-Dichloropropens	10 (U
10 U 127-13-4 Tetrachloroethene	75-25-2	Bromoform	101	Ü
127-13-4 Tetrachloroethene	108-10-1	4-Metnvl-2-Pentanone	10 .	U
127-13-4 Tetrachloroethene	591-78-6		101	T U
10 U U U U U U U U U	127-13-4			
79-34-5 1,1,2,2-Tetrachloroethane 10 U	109-88-3			
108-90-7 Chloropenzene				
100-41-4 Schvibenzene 10 U U U U U U U U U				
100-42-5 Styrene 10 U U				
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EPA SAMPLE NO.

VOLATILE OR TENTATIV	 ALYSIS DATA 'IFIED COMPO		
		Ī	HQ935

Lab Name: <u>IEA-NJ</u>

______Contract. <u>63D50011</u>_____

Lab Code: IEANJ Case No.: 24569 SAS No.: SDG No · HO931

Matrix: (soil/water) Water

Lab Sample ID: <u>61422009</u>

Sample wt/vol: $\frac{5}{2}$ (g/mL)ml

Lab File ID: A8084

Level: (low/med): LOW

Date Received: <u>04/12/96</u>

% Moisture: not dec. _____

Date Analyzed: <u>04/17/96</u>

GC Column: RTX-624! ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ____(uL)

Soil Aliquot Volume: ____(uL)

Number TICs	Found:	<u>o</u>		L or ug/		
CAS NUMBER		COMPOUND	NAME	RT.	EST.	CONC
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O1	CAS NUMBER : COMPOUND NAME	RT.	EST. CONC.	Q
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EPA SAMPLO

Date Received: 04/12/96

VOLATILE ORGANICS ANALYSIS DATA SHEET

H0936 Lab Name: IEA-NJ | Contract 68D50011

Lab Code: <u>IEANJ</u> dase No.. <u>24569</u> SAS No. _____ SDG No.: <u>HQ931</u>

Matrix: (soil/water) Water Lab Sample ID <u>61422011</u>

Sample wt/vol. 5. (g/mL)ml Lab File ID: A3035

Level: (low/med) LOW % Moisture · not dec. _____ Date Analyzed: <u>04/17/96</u>

GC Column. RTX-624 ID: 0.53 (mm) Dilucion Factor: 1.0

Soil Extract Volume: ____(uL) Soil Aliquot Volume: ____(uL)

CONCENTRATION UNITS: CAS NO. COMPOUND (ug/L or ug/Kg) ug/l

				
74-87-3	Chloromethane	10	י ט	
74-83-9	Bromomethane -	10	Ü	
75-01-4	Vinvi Chloride	101		
75-00-3	Chloroethane	10	Ü	
75-09-2	Methylene Chloride	101	Ü	
67-64-1	Acetone	101	Ü	U5
75-15-0	Carpon Disulfide	10	Ű	•
75-35-4	j 1,1-Dichloroethene	10	U	
75-34-3	1,1-Dichloroechane	101	Ü	
540-59-0	1,2-Dichloroechene(total)	101	U	
57-66-3	Chloroform	10	Ü	
107-06-2	1,2-Dichloroethane	- 10	U	
78-93-3	2-Butanone	10	Ū	
71-55-5	1,1,1-Trichloroethane	1 10	U	
55-23-5	Carbon Tetrachloride	10	Ū	
75-27-4	! Bromodichloromethane	10 (U	
78-37-5	1,2-Dichloropropane	10 (Ü	
10061-01-5	cis-1,3-Dichloropropene	1 10	Ü	
79-01-5	Trichloroethene	1 -10	Ü	
124-48-1	Dipromochioromethane	1 10.1	Ü	
79-00-5	1,1,2-Trichloroethane	1 10 (U	
71-43-2	Benzene	1 10	Ü	
10051-02-6	Trans-1,3-Dichloropropene	10 !	Ü	
75-25-2	Bromoform	1 10 1	Ü	
103-10-1	14-Methyl-2-Pentanone	10	_ 0	
591-78-6	2-Hexanone	10	Ü	
127-13-4	Tetrachloroethene	101	Ū.	
103-33-3	Toluene	1 10 1	0	
79-34-5	11,1,2,2-Tetrachloroethane	1 101	Ū I	
103-90-7	Caloropeazene	1 10 1	Ü	
100-41-4	Ethylbenzene	10 !	C	
100-42-5	Styrene	10	Ü	
1330-20-7	Total :Kvienes	10:	Ū	

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TENTATIVELY	IDENTIFIED	COMPOUNDS	
			HQ936
	COREYROF	68050011	

Lab Name: <u>IEA-NJ </u>	Contract <u>68D50011</u>
Lab Code. <u>IFANJ</u> Case No.: <u>24569</u>	SAS No · SDG No · HO931
Matrix (soil/water) Water	Lab Sample ID 61422011
Sample wc/vol: $\frac{5}{}$ $(g/mL)m$	lab File ID: A8086
Level: (low/med) LOW	Date Received: 04/12/96
% Moiscure. not dec	Date Analyzed. 04/17/96
GC Column: RTX-524 ID: 0.53 (mi	m) Pilution Factor 1.0
Soil Extract Volume (uL)	Soil Aliquot Volume:(uL)

Number TICs.Found: 0

· CONCENTRATION UNITS (ug/L or ug/Kg) ua/l

CAS NUMBER	, COMPOUND NAME	RT	EST. CONC.	Q
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LA VOLATILE ORGANICS ANALYSIS DATA SHEET

HQ937

Lab Name. IEA-NJ : Cont	ract: 63D50011
Lab Code <u>IEANJ</u> Case No . <u>24569</u> SAS No	
Matrix. (soil/water) <u>Water</u>	Lab Saπple ID. <u>51÷22010</u>
Sample wt/vol: 3 (g/mL) ml	Lab File ID: A3085
Level: (low/med) LOW	Date Received: 04/12/96
% Moisture: not ded	Date Analyzed. 04/17/96
GC Column: RTX-524; ID: 0 53 (mm)	Dilution Factor: 1 0
Soil Extract Volume:(uL)	Soil Aliquot Volume:(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg)ug/l	C	2
74-37-3	Chloromethane	10		
74-83-9	Bromomethane	- 10		
75-01-4	Vinvl Chloride	i ic		
75-00-3	Chloroethane	10	.	
75-09-2	Methylene Chloride	10	, -	. 11
67-64-1	Acetone	1 10		
75-15-0	Carpon Disultide	1 10		
75-35-4	1,1-Dichloroethene	1 10		
75-34-3	1,1-Dichloroethane	110		
540-59-0	1,2-Dichloroethane(total)	1.0		
57-55-3	Chloroform	10		
107-05-2	; 1,2-Dichloroethane	1 10	ı û	
78-93-3	2-Butanone	10	Ū	<i>i</i>
71-55-5	1,1,1-Trichloroethane	10	ŢÜ	
55-23-5	Carpon Tetrachloride	1 10		
75-27-4	Bromodichloromethane	1 10	! 0	
78-37-5	1,2-Dichloropropane	1 10		
10051-01-5	cis-1,3-Dichloropropene	10		
79-01-5	! Trichloroethene	10	1 0	
124-45-1	Dipromochioromethane	10	Ü	
79-00-5	1,1,2-Trichloroethane	1 10	1 0	
71-43-2	Benzene	10	U	UT
10051-02-5	Trans-1,3-Dicatoropropene	1 10	ı Ü	
75-25-2	Sromolorm	10		<u> </u>
108-10-1	14-Mechvl-2-Pencanone	1 10	U	
591-73-5	2-Hexanone	1 10		
127-15-4	Tetrachloroethene	10		
103-88-3	Toluene	10		
79-34-5	1,1,2,2-Tetrachioroeinane			
108-90-7	Chloropenzene	10		
100-11-1	Ethylpenzene	10		
Y	Sovrene	10		
	Total Xvlenes	10		

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IE VOLATILE ORGANICS ANALYSIS DATA SHEET

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

HQ937	
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EPA SAMPLE NO

Lab Name: IEA-NJ	Contract: 68D50011	
Lab Code: IEANJ Case No.: 24569 S.	AS NoSDG No. HO931	
Matrix: (soil/water) Water	Lab Sample ID <u>51422010</u>	
Sample wt/vol· 5 (g/nL) ml	Lab File ID. A3085	
Level: (low/med) LOW	Date Received. 04/12/95	
% Moisture: not dec.	Date Analyzed: 04/17/95	
GC Column: <u>RTX-624</u> ! ID: <u>0.53</u> (mm)	Dilucion Factor: 1.0	
Soil Extract Volume:(uL)	Soil Aliquot Volume:(ul	٠)

CONCENTRATION UNITS: (ug/L or ug/Kg)ug/1

Number TICs Found : 0 (ug/L or

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A EPA SAMPLE NO

VOLATILE ORGANICS AMALYSIS DATA SHEET

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Lap	Name.	IEA-NJ	· · · · · · · · · · · · · · · · · · ·	Contract	<u>63D50011</u>	<u> </u>

Lab Code. IEANJ | Case No.: 24569 SAS No : ____ SDG No HO931

Matrix (soil/water) Soil Lap Sample ID: 61422012

Sample wt/vol: 5 (g/mL)g Lab File ID: A8127

Level. (low/med) LOW Date Received: 04/12/95

% Moisture: not dec. 35 Date Analyzed: 04/18/95

GC Column: RTX-624: ID. 0.53 (mm) - Dilution Factor: 1.0

Soil Extract Volume: ____(uL) Soil Aliquot Volume: ____(uL)

CAS NO. COMPOUND CONCENTRATION UNITS:

(ug/L or ug/Kg)ug/kg Q

74-87-3 Chloromethane 15 U

74-83-9 Bromomethane 15 U

75-01-4 Ū | Vinyl Chloride 75-00-3 Chloroethane 5 Ū 75-09-2 | Methylene Chloride 67-64-1 Acetone \Box | Carpon Disulfide 15 75-15-0 | 1,1-Dichloroethene 15 I บี 75-35-4 75-34-3 | 1,1-Dichloroethane Ü 540-59-0 (1,2-Dichloroethene(total). 15 | Ū 57-55-3 15 | Ũ | Cnloroform ΙĪ 107-06-2 11,2-Dichloroethane 2-Butanone 78-93-3 15 I Ιî 71-55-5 1,1,1-Trichloroethane 15 I Ū | Carbon Tetrachloride 55-23-5 75-27-4 Bromodichloromethane 78-37-5 1,2-Dichloropropane 15 1 10061-01-5 | cis-1,3-Dichloropropene 15 79-01-6 | Trichloroethene 15 I 124-43-1 | Dibromochioromethane 15 (79-00-5 11,1,2-Trichloroethane $71 - \div 3 - 2$ | Benzene 10061-02-6 | Trans-1,3-Dichloropropene Bromotorm 75-25-2 5 103-10-1 | 4-Mecnyl-2-Pentanone 591-78-6 2-Hexanone 127-18-4 Tetrachloroethene 65 103-38-3 Toluene 15 | | 1,1,2,2-Tetracaloroethane 79-34-5 15 | 103-90-7 Chloropenzene 15 | Ū. 100-41-4 15-1 | Ethylbenzene 100-42-5 | Styrene 15 1 Ü

FORM I WOA

10 6/10/96

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EPA SAMPLE NO.

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Lap Nare <u>IEA-NJ : </u>	act 63D50011	
Lab Code: <u>IEANJ</u> (Case No. <u>24569</u> SAS No.	SDG No. : <u>H0931</u>	
fatrix (so:1/water) <u>Soil</u>	Lab Sample ID: <u>61422012</u>	
Sample wc/vol· <u>5</u> (g/mL) <u>g</u>	Lab File ID. A3127	
Level (low/med) LOW	Date Received: 04/12/96	
Moisture, not dec. 35	Date Analyzed: 04/18/96	
C Column : RTX-524 ID: 0 53 (mm)	Dilucion Factor 1.0	
Soil Extract Volume:(uL)	Soil Aliquot Volume(uL	,)

CONCENTRATION UNITS: -(ug/L or ug/Kg)ug/kg -

Number TICs Found ! 0

01	NUMBER	COMPOUND NAME	*	RT	EST. CONC.	l Q
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FORM I VOA-TIC

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HQ931 Contract - 66D50011

Lab Code: IEANJ | Case No | 24569 | SAS No .. _ | | SDG No : HQ931

Lap Sample ID: <u>61422001</u> Matrix (soil/watem) Water

Sample wt/vol: 1000 (g/mL) ml Lab File ID: H2145 Level (low/med) LOW Date Received: 04/12/95

decanted. (Y/N) ____ , Date Extracted 04/15/95 者 Moiscure·

Date Analyzed. <u>04/19/96</u> Concentrated Extract Volume: 1000 (ub)

Injection Volume 2. (uL) Dilution Factor: 1.0

GPC Cleanup. (Y/N)N рн __

_ CONCENTRATION UNITS. CAS NO COMPOUND (ug/L or ug/Kg)ug/l

		1	-	7
103-95-2	Phenol	10	Ū	20
111-44-4	Bis(2-Chloroethvl)Ether .	10	Ü	1
95-57-3	2-Chlorophenol	10	U	1
541-73-1	11,3-Dichloropenzene	10	Ü	11
105-45-7	11,4-Dichloropenzene	10	Ü	1
95-50-1	1,2-Dichloropenzene	10	Ū	1
95-43-7	2-Meanylphenol	10	Ű	11
103-60-1	2,2'-Oxybis(1-Chloroprobane)	10.	Ū	1
105-44-5	4-Metnylonenol	10	Ü.	7
621-64-7	N-Nitrosodi-N-Propylamine	10	Ü -	1
57-72-1	Hexachloroethane	10	Ū.	1
98-95-3	Nitropenzene	10	Ü	1
73-59-1	Isophorone	1 10)	Ū,]
33-75-5	2-Nitrophenol	10	U	1
105-67-9	2,4-Dimechylphenoi] 10	Ű]
111-91-1	Bis(2-Chloroethoxy) Methane	10	Ū	}
120-33-2	2,4-Dichlorophenol	· 10	Ü	1
120-32-1	1,2,4-Tricaloropenzene	10	Ü]
91-20-3	Naphchalene	10	Ü] -
105-47-3	4-Chloroaniline	10	Ü,]
37-53-3	Hexachlorobutadiene	10	Ü]
59-50-7	4-Cnloro-3-Methylphenol	10	Ü]
91-57-6	2-Methylhaphthalene	10	Ū	1
77-47-4	Hexachiorocyclopentadiene	10	ับ	υz
33-06-2 i	2,4,5-Trichlorophanol	10	U]] '
95-95-4	2,4,5-Tricalorophenol	25	Ŭ	<u> </u>
91-53-7	2-Chloronaphthalene	10	Ū	
33-74-4 i	2-Nitroaniline	25	Ü]
131-11-3	Dimethylphthalate	10	Ü-	1
203-96-3	Acenaphonylene	10	Ü	}
505-20-2	2.5-Dinitrotoluene	10	∵ J	
99-09-2	3-Nitroaniline	25	Ü ,]]·
<u> </u>	Acenaphonene	10 1	U)

FORM I SV-1

OLM03.0

TC 61-2176

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10 ESEMIVOLATILE ORGANICS ANALYSIS DATA SHEED

#0937

Lab Name IEA-NJ 1	Contract: 63D50011
Lab Code. IEANJ Case No · 24569 S	·
Matrix: (soil/water) Water	Lap Sample ID: <u>51422001</u>
Sample wt/vol 1000 (g/mL) ml	Lab File ID: H2145
Level: (low/med), LOW_	Date Received: 04/12/96
% Moisture: decanted (Y/N)	Date Extracted 04/16/96
Concentrated Extract Volume: 1000	(uL) Date Analyzed: 04/19/96
Injection Volume: 2 (uL)	Dilucion Factor. 1.0
GPC Cleanup: (Y/N)N pH	_
	·

CONCENTRATION UNITS. CAS NO. COMPOUND (ug/L or ug/Kg)ug/l Q 51-28-5 25 Ü 2,4-Dinitrophenol UJ 100-02-7 4-Nitropnenol 25 ΰ 132-54-9 10 U | Dibenzosuran 121-14-2 10 / Ū 2,4-Dinicrocoluene 84-55-2 Ü | Diethylphthalate 10 (7005-72-3 14-Chiorophenvi-Phenvi Ether 10 i Ū U 86-73-7 Fluorene 10 25 Ū 100-01-5 4-Nitroaniline 534-52-1 4,6-Dinitro-2-Methylphenol 25 ΰ 85-30-5 10 Ū N-Nicrosodipnenylamine (1) 101-55-3 10 Ū 4-Bromophenvl-Phenvlether 118-74-1 Hexacaloropenzene 10 Ü 87-86-5 Pentachiorophenol 25 ü UJ 85-01-8 Phenanthrene 10 Ü 120-12-7 85-74-8 ũ Anchracene 10 Carbazole 10 ũ 34-74-2 Di-N-Bucylphinalate 10 Ū Fluoranthana 10 205-44-0 Pyrene 129-00-0 10 35-53-7 10 Butylpenzylphthalate 91-94-1 3,3'-Dichloropenziaine 10 i 56-55-3 I Benzo (A) Anthracene 10 213-01-9 Chrysene 10 1 10 1 117-31-7 | Bis(2-Ethvinexvi) Phinalate Ü 117-34-0 | Di-N-Octylphonalate 10 1 Ü 205-99-2 | Benzo(B) Fluoranthene 10 I ΰ 207-03-9 | Benzo(K) Fluorantnene 10 T Ű 50-32-3 Benzo (A) Pyrene 10 Ū | Indeno(1,2,3-Cd) Pyrene | Dibenz(A,H) Anthracene 193-39-5 10 ij 53-70-3 10 1 Ü 191-24-2 i Benzo (G. h. I) Perviene 10 I

FORM I SV-2

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OLM03.0

EPA SAMPLE NO

Contract: 63050011

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HQ931

Lab	Code	LEANJ	Ċase	No	٠	<u> 24569</u>	SAS	No			SDG	No		<u> HQ931</u>
-----	------	-------	------	----	---	---------------	-----	----	--	--	-----	----	--	---------------

Matrix (soil/water) Water Lao Sample ID <u>51422001</u> Sample wt/vol 1000 (g/mL)ml Lab File ID· H2145

Date Received: 04/12/96 Level. (low/med), LOW_

% Moisture

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/19/96

Injection Volume: (uL) Dilution Factor: 1 0

GPC Cleanup: (Y/N)N pH:_

Lap Name. IEA-NJ

CONCENTRATION UNITS

Number TICs Found 5 (ug/L or Lg/Kg)ug/l

CAS NUMBÉR	COMPOUND NAME	RT_	EST. CONC	Q
01	Unknown	18 44	5	· J
02	Unknown	21 04	3	J
03.	Unknown Alconol	19 87	2	J
04	Unknown	20 15	2	J
05	Unknown Alcohol	16.50	2	ŭ
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, SEMIVOLATILE ORGANICS ANALYSIS DATA SHE

______ Contract <u>63D50011</u> HQ932 Lap Name: IEA-NU

Lab Code <u>IEANJ</u> Case No <u>24569</u> SAS No. _____ SDG No . <u>HQ931</u>

Matrix: (soil/water) Soil Lao Sample ID. <u>61422004</u>

Sample wt/vol. $\frac{1}{30}$ $\frac{30}{(g/rL)}$ Lap File ID: H2160

Date Received: 04/12/95 Level· (low/med) LOW

% Moisture. 24 decanted (Y/N) N : Date Extracted: 04/17/96

Concentrated Extract Volume 500 (ul) - Date Analyzed 04/22/96

Dilucion Factor: 1 0 Injection Volume: [2 (ub) .

GPC Cleanup: (Y/N) / pH: 7.82

CAS NO COMPOUND

CONCENTRATION UNITS: (ug/L or ug/Kg)ug/kg 0

103-95-2 Phenoil 430 05 Ũ 111-44-4 430 1 | Bis(2-Chloroethvl)Ether -12-Chlorophenoi 95-57-8 430 1 Ū 541-73-1 430-1 11,3-Dichlorobenzene 106-45-7 430 1 | 1,4-Dichloropenzene 95-50-1 430 1 | 1,2-Dichioropenzene ίĭ 2-Methylphenol 95-48-7 430 1 บี 108-60-1 | 2,2'-Oxypis(1-Chloropropane) 430 1 īĭ | 4-Metnylphenol 105-44-5 430 521-54-7 | N-Nitrosodi-N-Propylamine 430 1 57-72-1 430 | Hexachloroethane 98-95-3 430 Nitropenzene 78-59-1 430 1 Isophorone 38-75-5 430 | 2-Nitrophenol Ū 430 12,4-Dimethylphenol 111-91-1 | Bis(2-Chloroethoxy) Methane 430 120-33-2 2,4-Dichlorophenol 4301 120-32-1 430 | 11,2,4-Tricaloropeazene ΪŤ 91-20-3 430 1 erelshondsk | 105-47-3 | 4-Cnloroaniine 430 | 37-53-3 430 : | Hexachloroputadiene 59-50-7 430 I | 4-Cnloro-3-Methylphenol 91-57-5 12-Methylnaphthalene 430 [77-47-4 | Hexachlorocyclopentadiene 430 1 \$3-05-2 12,4,5-Trichlorophenol 4301 Ü 12,4,5-Trichlorophenol 95-95-4 1100 | 1 2-Chioronaphinalene 91-53-7 430 1 33-74-4 12-Nitroaniline 110,0 | 131-11-3 ! Direthvionthalate 430 | 203-95-3 Acenaphinylene 430 | 505-20-2 430 | 12,5-Dinitrotoluene 99-09-2 . 3-Nicroaniline 1100 | 33-32-9 | Acenabatanere 430 !

FORM I SV-1

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEE

HQ932

Lab Name IEA-NJ Contract 58050011 Lap Code: IEANJ Case No . 24569 SAS No . IEANJ SDG No HO931

Matrix: (soil/water)Soil Lab Sample ID: <u>61422004</u>

Lab File ID·· <u>H2160</u> 30 (g/mL)g Sample wt/vol.

Level: (low/med) LOW Date Received: 04/12/96

% Moisture: 24 decanted. (Y/N)N Date Extracted 04/17/95

Concentrated Extract Volume. 500 (uL) Date Analyzed. 04/22/95

Injection Volume: 2 (uL) Dilution Factor: 1.0

GPC Cleanup· (Y/N)Y pH:7.82 -

| Indeno(1,2,3-Cd)Pyrane | Dipenz(A,R)Anonracane

: Benzo (G. H. I) Perviene

CONCENTRATION UNITS. CAS NO. COMPOUND (ug/L or ug/Kg)<u>ug/kg</u>

0 51-23-5 2,4-Dinitrophenol . 1100 100-02-7 | 4-Nitrophenol 1:00 Ū 132-54-9 | Dibenzoruran 430 ΰ 121-14-2 12,4-Dinitrotoluene 430 | Ũ 34-55-2 Dietnylphthalate 430 I Ũ 7005-72-3 | 4-Chlorophenyl-Phenyl Ether 430 1 ΰ 85-73-7 Fluorene 130 1

4-Nitroaniline 100-01-6 1100 | 4,6-Dinitro-2-Methylphenol 534-52-1 1100 | 430 I Ü 86-30-6 | N-Nitrosodiphenylamine (1) 101-55-3 4-Bromophenvi-Phenylether 430 1 118-74-1 Hexachloropenzene 430 1 | Pentachlorophenol 37-35-5 1100 85-01-8 | Phenanthrene 44 1 120-12-7 -30 Anchracene 36-74-8 Carbazole 430 | D1-N-Bucylonchalate 34-74-2 430 T 205-44-0 Fluoranthene 35 | Pyrene 129-00-0 430 35-58-7 | Bucylpenzylphchalace =30 1 91-94-1 430 | 3,3'-Dichloropenzidine ü 35-55-3 | Benzo (A) Anthracene 430 | 54 1 218-01-9 | Chrysene 117-31-7 | Bis(2-Ethvinexvi)Phthalate 117-84-0 ÷30 I | D1-N-Occvioninalate U 205-99-2 | Benzo(B)Fluoranthene 53 | Benzo(K) Filoranthene 207-03-9 ÷30 I 50-32-3 | Benzo(A) Pyrene ±30 1

FORM I SV-2

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193-39-5

53-70-3

191-24-2

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EPA SAMPLE NO

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEE TENTATIVELY IDENTIFIED COMPOUNDS

HO932

Lap Name. <u>IEA-NJ</u>	Concract.	<u>63D50011</u>	
Lap Code. <u>IEANJ</u> Çase No <u>24569</u>	SAS No :	, SDG No	<u>HO931</u>
Matrix (soil/water) Soil	, L	ab Sample ID	51422004
Sample wz/vol· : 30 (g/mL)g	;: <u>L</u>	ap File ID.	H2160
Level: (low/med) LOW	ָ ס	ate Received.	04/12/95
% Moiscure: 24 decanted: (Y/N	I) <u>N</u> D	ate Extracted	- <u>04/17/96 ~</u>
Concentrated Extract Volume 500	_ (uL) D	ate Analyzed.	04/22/95
Injection Volume 2 (uL)	- D	ilution Factor	r: <u>1.0</u>
GPC Cleanup. (Y/N) Y pH 7.	<u>82</u>		•

Number TICs Found: 5

CONCENTRATION UNITS: (ug/L or ug/Kg)ug/kg

(<u> </u>				
CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	Aldor Condensation Product	4 25	7700	·JAB
02	Unknown.	3 82	1100	J3
03	Unknown	5.06	740	J
04	Unknown	16 30	290	J
05.	Unknown Asia .	18 24	190	J
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SEMIVOLATILE ORGANIUS ANALYSIS DATA SHEE

ab Name <u>IEA-NJ</u>	_ Contract <u>63050011 _</u>	HQ933
ap Code. <u>IEANJ</u> Case No. <u>24569</u>	•	<u> </u>
acrix (soil/water) <u>Water</u>	Lab Sample ID	51422007
ample wt/vol: 1000 (g/mi) <u>nl</u>	Lab File ID:	H2148
evel (low/med) <u>LOW</u>	Date Received	
Moiscure decanted. (Y/N	Date Extracted	·04/16/96

Concentrated Extract Volume 1000 (uL) Date Analyzed 04/19/96

Injection Volume: $\{.2,...,(uL)\}$

Dilution Factor 1.0

CONCENTRATION UNITS. (ug/L or ug/Kg)ug/l

GPC Cleanup: . (X/N)N<u> ೨</u> ∺ : ___

		•
		•
		1
CAS	NO	COMPOUND
4.10	-10	40, 12 401.15

UJ 103-95-2 Phenol 10 U 111-44-4 Bis(2-Chloroethvl)Ether . 10 95-57-3 2-Chlorophenol 10 Ū 3-Dichloropenzene 541-73-1 105-45-7 1,4-Dicaloropeazene 10 Ü 95-50-1 10 1,2-Dichloropenzene 95-43-7 2-Metnylphenol 10 103-60-1 2,2'-Oxybis(1-Chloropropane) 10 ΰ 106-44-5 10 Ü 4-Methylphenol 621-64-7 N-Nitrosodi-N-Propylamine 10 10 67-72-1 Hexachloroetnane 93-95-3 Nicropenzene 10 78-59-1 10 Isophorone 33-75-5 105-67-9 Ū. 2-Nitrophenol 10 1 10 | 2,4-Dimetrylphenol Ū 111-91-1 10 1 Bis(2-Chloroethoxy) Methane 120-33-2 10 2,4-Dichlorophenol 120-32-1 1,2,4-Trichloropenzene 10 1 Ū 10 | 91-20-3 | Naphinalene Ū 14-Chioroaniline 105-47-3 10 i U 37-53-3 10 1 ij, Hexachlorobutaciene 59-50-7 4-Chloro-3-Methylphenol 10 1 ΰ 91-57-5 2-Mechvinaphihalene 10 Ü 77-17-1 Hexachlorocyclopentadiene 10 1 ΰ 5 2,4,5-Trichlorophenol Ü 33-05-2 10 1. 95-95-4 2,4,5-Trichiorophenol 25 | ü 1 2-Chioronaphinalene 91-53-7 10 1 īį 33-74-4 | 2-Nitroaniline 25 | Dimethylphthalate 131-11-3 10 i 208-35-3 Acenaphthylene <u> 10 j</u> 506-20-2 2,5-Dinitrotoluene 10 [99-09-2 3-Nitroaniline 25 [Acenaphinene

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OLM03 0

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEE

20023

Lab Name: <u>IEA-NJ </u>	Contract: <u>63D50011</u>
Lab Code: <u>IEANJ</u> Case No : <u>24569</u> SA	S No SDG No <u>H0931</u>
Matrix (soll/water) Water	Lab Sample ID <u>61422007</u>
Sample wt/vol: 1000 (g/mL)ml	Lab File ID H2148
Level: (low/med) [LOW]	Date Received. <u>04/12/96</u>
% Moisture · decanted: (Y/N)_	Date Extracted 04/15/95
Concentrated Extract Volume. 1000 (uL) Date Analyzed 04/19/95
Injection Volume: 2 (uL)	Dilution Factor. 10

GPC Cleanup: (Y/N) N_

pH:____

COMPOUND CAS NO.

CONCENTRATION UNITS (ug/L or ug/Kg)ug/1

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52 22 5	2 4 24-4-4-4-4	2-	*-	
51-28-5	2,4-Dinitrophenol	25	Ü	ńΖ
100-02-7	4-Nitrophenol ·	25	Ü	
132-54-9	Dibenzofuran	10	Ü	
121-14-2	2,4-Dinitrotoluene	1 10 1	Ŭ	
84-55-2	Diethylonchalate	101	Ü	
7005-72-3	4-Chlorophenyl-Phenyl Ether	10	Ü	1
85-73-7	Fluorene	101	Ü	
100-01-5	4-Nitroaniline	25	Ü	1
534-52-1	4,6-Dinitro-2-Methylphenol	25 [Ü	ł
35-30-5	N-Nitrosodiphenylamine (1)	10	บ	1
101-55-3	4-Bromophenyl-Phenylether	1 10 1	ប	
118-74-1	Hexachloropenzene	1 10	Ü	
37-86-5	Pentachlorophenol	1 25 1	U	105
85-01-8	Pnenanthrene	10	U .	
120-12-7	Anthracene	10 [ប	1
35-74-8	Carbazole	1 101	U	l
34-74-2	Di-N-Butvlphthalate	10	Ü	1
206-44-0	Fluoranthene	101	U	1
129-00-0	Pyrene	10 /	Ü	1
35-63-7	Bucyloenzyionthalace	10	Ū	1
91-94-1	3,3'-Dichloropenzidine	101	Ū Ū	1
55-55-3	Benzo (A) Anchracene	1 10 1	Ü	
213-01-9	Chrysene	10	U i	
117-31-7	Bis(2-Ethvinexvi)Phthalate	101	U	
117-34-0	Di-N-Octylonthalate	101.	. U	
205-99-2	(Benzo(B) Fluoranthene	10	Ü	
207-03-9	Benzo(K) Fluoranthene	10	Ü	l
50-32-3	Benzo(A) Pyrene	101	Ü	1
193-39-5	Indeno(1,2,3-Cd)Pyrene	1 101	Ü	ŀ
53-70-3	Dipenz (A, H) Anthracene	1 201	Ü	
191-24-2	Benzo(G H.I) Perviene	101	- 0	

FORM I SV-2

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1F ORGANICS ANALYSIS DATA SHEE

SEMIN	/OLATILE	ORGANICS	ANALYSI	S DATA	SHEET
		/## 12 TO #15	ereten e	ついつのたつだつ	e 1

Lap Name IEA-NJ	Contract <u>£</u>	3D50011	HQ933
Lap Code: <u>IEANJ</u> Case No <u>24569</u>			<u> </u>
Matrix: (soil/water) Water.	La	o Sample ID	51422007
Sample wc/vol. $\frac{1000}{1000}$ (g/mL) ml	La	b File ID	H2148
Level: (low/med): LOW	Da	te Received:	04/12/96
% Moisture: decanted: (Y/N)) Da	te Extracted	.04/15/95
Concentrated Extract Volume: 1000	_(uL) Da:	te Analyzed.	04/19/96
Injection Volume: 2 (uL)	Đ1)	lution Facto	r: 1.0
GPC Cleanup (Y/N)N pH:			

CONCENTRATION UNITS: (ug/L or ug/Kg)ug/l

		145, 2 01 03, 115, <u>115, 115, 115, 115, 115, 115, 11</u>
CAS NUMBER	COMPOUND NAME	RT EST CONC Q
01.	Unknown Alcohol	21 25 4 5
02.	<u> </u>	
03.		
04	'	
05	<u> </u>	
06.	<u> </u>	
07	1	
08.	<u> </u>	
09	1	
10	i	
11 12 13 14 15.	1	
1 12		
1.0		
1 2		
15.		
15. 17		
13		
1 1 3		
19 20.		
21	· · · · · · · · · · · · · · · · · · ·	
22	i	
23.	·	
21 22 23. 24 25	· · · · · · · · · · · · · · · · · · ·	j - j
25		· · · · · · · · · · · · · · · · · · ·
25.	······································	
27.		
28	- 	
29		
30 i	1	
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Number TICs Found: 1

EPA SAMPLE NO

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEE

HQ934

Contract. 63053011 Lab Code: IEANJ | Case No . 24569 | SAS No | SDG No : H0931 Lab Sample ID <u>61422008.</u> Matrix: (soil/water) <u>Soil</u>

Sample wt/vol [30 (g/mL)g Lap File ID. H2163

Level: (low/med); LOW Date Received. 04/12/95

% Moisture: 21 decanted: (Y/N)NDate Extracted 04/17/96

Concentrated Extract Volume: 500 (ul) Date Analyzed. 04/22/95

Injection Volume: 2 (uL) - Dilution Factor 10

GPC Cleanup: (Y/N)Y pH 8 22 .

CAS NO. COMPOUND

Lab Name <u>IEA-NJ</u>

CONCENTRATION UNITS: (ug/L or ug/Kg)ug/kg_

103-95-2 - | Phenol 11 UT 420 1 111-44-4 | Bis(2-Chloroethyl)Ether . . 420 | 95-57-8 12-Chlorophenol -20 I 541-73-1 | 1.3-Dichloropenzene 420 1 105-45-7 | 1,4-Dichloropenzene 420 | 95-50-1 | 1,2-Dichlorobenzene =20 I 95-48-7 1 2-Methylphenol 420 1 ±20 I 108-60-1 | 2,2'-Oxypis(1-Chloropropane) 105-14-5 | 4-Methylphenol 420 I 120 1 521-54-7 N-Nitrosodi-N-Propylamine 57-72-1 | Hexachloroethane 420 I ÷20 | 98-95-3 Nitropenzene 73-59-1 420 I | Isophorone | 2-Nicrophenol 33-75-5 420 1 2,4-Dimetrylonanol 105-57-9 120 1 | Bis(2-Chloroethoxy) Methane 111-91-1 420 | 120-33-2 | 2,4-Dichlorophenol =20 I 120-32-1 1,2,4-Trichlorobenzane 91-20-3 | Naphinalene -20 | 105-47-3 | 4-Chloroaniline 37-63-3 120 I | Hexachloroputablene 420 | 59-50-7 14-Chloro-3-Methylphenol | 2-Methylhaphthalene 420 | 91-57-6 77-47-4 | Hexachiorocyclopentadiene -120 l 33-05-2 12,4,6-Trichiorophenol 420 1 95-95-4 1000 / 12,4,5-Trichlombohenol 12-Chloronaphthalene 91-53-7 420 T 33-74-4 12-Nitroaniline 1000 | Dimethylphthallate 131-11-3 ÷20 | 203-95-3 | Acenaphonylene ±20 i 1 505-20-2 12,6-Dinitrotoldene 420 | 13-Nidroaniline) | Agenabhinene | | 99-09-2 1000 | 33-32-

FORM I SV-1.

OLM03 0

10 EPA SAMPLE NO

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HQ934

Lab Code. <u>IEANJ</u> Case No. 24569 SAS No. _____ SDG No. HO931

Matrix: (soil/water)Soil Lab Sample ID 61422003

Sample wt/vol. 30 (g/mL)g Lab File ID H2163

Level. (low/med) LOW Date Received: 04/12/95

% Moisture. 21 decanted (Y/N)N Date Extracted: 04/17/95

Concentrated Extract Volume: 500 (uL) Date Analyzed · 04/22/96

Injection Volume. 2 (uL) Dilution Factor 10

GPC Cleanup: (Y/N)Y pH 8.22

Lab Name IEA-NJ

CAS NO. COMPOUND CONCENTRATION UNITS:

(ug/L or ug/Kg)ug/kg Q

51-28-5	2,4-Dinitrophenol	1000	J ∭u
100-02-7	4-Mitrophenol	1300 j	<u> </u>
132-64-9	Dibenzofuran	420	<u> </u>
121-14-2	12,4-Dinitrotoluene	-20	U
84-55-2	Diethylonchalage	÷20	-
7005-72-3	4-Chlorophenvl Phenvl Ether	420 -	"
35-73-7	Fluorene	±20	U
100-01-6	4-Nitroaniline	1000	Ū
534-52-1	4,5-Dinitro-2-Metavloheaol	1000	Ü
85-30-5	N-Nitrosodibnenviamine (1)	÷20	Ü i
101-55-3	4-Bromophenyl-Shenylether	<u> </u>	J
118-74-1	Hexachloropenzane	420	U
37-86-5	Pentachiorophenol -	1000	Ü
35-01-3	Phenanthrene	420	Ü
120-12-7	Anchragene	=20	T I
86-74-8	Carpazole	20	IJ i
34-74-2	Di-N-Bucylphinalace	* 420 l	Ü
206-44-0	Fluoranthene	-20	U i
129-00-0	Pyrene	<u> </u>	Ü :
35-53-7	Butylpenzylphthalate	÷20	U ;
91-94-1	3,3'-Dichloropenzidine	≟20 i	Ü ı
56-55-3	Benzo (A) Anthracene	=20	: U
218-01-9	Chrysene	-20	U
117-31-7	Bis(2-Ethylnexyl)Phthalate .	÷20	Ü,
117-84-0	Di-N-Octylphinalace	20 i	U
205-99-2	Benzo(B) Fluoranthene	÷20	U I
207-03-9	Benzo (K) Fluoranthene	-20	Ü
50-32-3	Benzo(A) Pyrene	÷20	الت
193-39-5	Indeno(1,2,3-Cd) Pyrene	±20	U i
53-70-3	Dibenz(A, H) Anthracene	-20	Ü
191-24-2	Benzo (G.H. I) Perviene	÷20 i	U I

FORM I SV-2

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EPA SAMPLE NO.

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TENTATIVELY IDENTIFIED COMPOUNDS

HQ934

Lao	Name	IEA-NJ	· -	1		_ Contrac	ot <u>630</u>	50011	
			j t			•			
Lab	Code	<u>IEANJ</u>	Case	No.	<u> 24569</u>	SAS No	-	SDG No	<u> HQ931</u>

Matrix. (soil/water)Soil

Lab Sample ID <u>51422008</u>

Sample wt/vol: $\frac{1}{2}$ 30 . $\frac{1}{2}$ (g/mL) $\frac{1}{2}$

Lab File ID. H2153

Level (low/med) LOW

Date Received: 04/12/95

रे Moisture

Date Extracted 04/17/96

21 decanted: (Y/N)N

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/22/95

Injection Volume. 2 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N)Y pH: 3 22

Number TICs Found: 4

CONCENTRATION UNITS. (ug/L or ug/Kg)ug/kg

CAS NUMBER	- COMPOUND NAME	RT	EST. CONC.	Q
01.	Aldol Condensation Product	4 27	11000	jаз
02	Unknown	3 34	1700	J3
03	Unknown .	5 07	1100	َ أَنْ
04	Unknown	16 81	350	J
0.5		•		
06.				
07				
03	1	<u> </u>		
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11				· · _
12	· · · · · · · · · · · · · · · · · · ·	ii		
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14	<u> </u>	1		<u>.</u>
15		1 1		
16		<u>† 1</u>		
17	1	<u> </u>		
13	1	1 !		
19	1	<u> </u>		1
20 i		<u> </u>		
21		!		
22		1	1	
23		1		
24 (,	1		
25		l i		
25				
27				
28 !				
29	1			
30 1	. !		!	
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Lab Name: IEA-NU	Contract <u>63050011</u>
Lao Gode. <u>IEANJ</u> Čase No. <u>24569</u> S	AS No SDG No HQ931
Matrix (soil/water) Water	-Lap Sample ID <u>51422009</u>
Sample wc/vol. 1 1000 (g/mL) ml	Lap File ID <u>H2149</u>
Level: (low/med) LOW	Date Received. 04/12/95
% Moiscure · decanted · (Y/N)	Date Extracted 04/16/96
Concentrated Extract Volume: 1000	(uL) Date Analyzed 04/19/95
Injection Volume , 2 (uL)	Dilution Factor 10
GPC Cleanup (אַ/אַ) קט	

CAS NO COMPOUND CONCENTRATION UNITS: (ug/L or ug/Kg)ug/l

[-				- 11
108-95-2	Phenol	10	IJ	U5
111-44-4	Bis(2-Chloroschv1)Ether	101	- i	1100
95-57-8	2-Chiorophenol	10	Ü	1
541-73-1	1,3-Dichloropenzene	10 i	ij	-11
105-45-7	1,4-Dichloropenzene	101	Ü	
95-50-1	1,1,2-Dichloropenzene	201	Ü	7
95-43-7	2-Methylonenol	201	Ü	Til
103-50-1	2,2'-Oxypis(1-Chloropropane)	10	Ü	1
105-44-5	4-Mechylphenol	101	Ü	71
521-54-7	N-Nitrosodi-N-Propylamine	101	Ü	1
57-72-1	Hexachioroethane	1 10	Ü	7
93-95-3	Nitropenzene	1 10	Ű	7
78-59-1	! Isopnorone	101	Ü	7
88-75-5	, 2-Nitrophenoi	10 (Ü	1
105-57-9	/ 2,4-Dimethylphenol	101	Ū	7
111-91-1	Bis(2-Chloroethoxy) Methane	101	Ü	7
120-33-2	2,4-Dichlorophenol	10	Ü	7
120-32-1	: 1,2,4-Tricaloropeazeae	10 1	J	<u> </u>
91-20-3	Naphinalene	10	Ĵ	1
105-47-3	,Coloroaniline	1 10	ت	7
37-53-3	Hexachioroputablehe	101	Ü	7
59-50-7	4-Chioro-3-Methylphenol	10	Ü	7
91-57-6	2-Methylhaphthalene	101	Ü	7
77-47-4	Hexachlorocyclopentadiene	1 10 (Ü.	1105
33-05-2	2,4,5-Trichlorophanol	10 1	Ū	7 .
95-95-4	2,4,5-Trichiorophenol	1 25 1	Ü	1 -
91-58-7	12-Chioronaphthalene	101	Ü	7
33-74-4	2-Nicroaniline	25 1	Ű.	1
131-11-3	Dimethylohthalate	10 1	Ū,	7
203-95-8	'Acemaphthylene	1 10 1	Ü	1
605-20-2	2,6-Dinitrotoluene	1 01	ij	1
99-09-2	3-Nitroaniline	25	J	7.
83-32-9	i Adenabadhene	10 1	1.7	₫ {

FORM I SV-1

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10 EPA SAMPLE NO SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

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Lab Name IEA-NJ	Contract: <u>68050011</u>
Lab Code· <u>IEANJ</u> Case No . <u>24559</u> S	AS NoSDG No · HO93I
Matrix. (soil/water) Water	Lap Sample ID <u>61422009</u>
Sample wt/vol - 1000 (g/mL) nl	Lao File ID: <u>H2149</u>
Level· (low/med) LOW	Date Received 04/12/95
% Moisture decanted (Y/N)	Date Extracted: 04/16/96
Concentrated Extract Volume 1000	(uL) Date Analyzed 04/19/96
Injection Volume: 2 (uL)	Dilution Factor: 1 0
GPC Cleanup. (Y/N)N pH:	

CAS NO. COMPOUND CONCENTRATION UNITS (ug/L or ug/Kg) ug/l

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51-28-5	2.4-Dinitrophenol	25 U	UJ
100-02-7	4-Nicrophenol	25 U	-1-
132-54-9	Dibenzoluran	10 U	
121-14-2	2,4-Dinitrocoluene	10 U	i[
34-55-2	Diethylphthalate	10 U	
7005-72-3	4-Chiorophenvl-Phenvl Ether	10 0	
85-73-7	Fluorene	10 0	;
100-01-5	4-Nitroaniline	25 i U	<u> </u>
534-52-1	4,6-Dinitro-2-Methylphenol	25 U	_
35-30-6	N-Nitrosodiphenylamine (1)	10 0	—il
101-55-3	14-Bromophenvi-Phenvietner	10 U	- - -
118-74-1	Hexacnloropenzene	10 U	
37-86-5	Pencachiorophenol	25 U	
85-01-8	i Phenanthrene	10 0	-
120-12-7	Anthracene	1010	- - ·
86-74-3	Carbazole	10 0	
34-74-2	Di-M-Butvioninalate	10 (0	
205-44-0	Fluoranchene	10 0	
129-00-0	Pyrene	10 0	
35-68-7	Bucylpenzylphthalate	10 1 0	
91-94-1	13,3'-Dichloropenzidine	101 0	
35-55-3	Benzo(A) Anthracene	101 3	<u> </u>
213-01-9	Chrysene	10.	7
117-31-7	Bis(2-Ethvinexvl)Phthalate	1 20 0	
117-34-0	Di-N-Octylphenalate	10 1 0	
205-99-2	Benzo(B)Fluoranthene	1 201 0	
207-03-9	Benzo(K) Fluoranthene	10 1 0	
50-32-3	Benzo(A) Pyrene	10 0	
193-39-5	Indeno(1,2,3-Ca)Pyrene	10 0	
53-70-3	MDipenz (A, H) Anchracene	10 1 0	_
191-24-2	: Benzo (G, H, I) Perviene	10 0	

FORM-I SV-2

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. IF EPA SAMPI SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPONERS

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			HQ935
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Lab Name <u>IEA-NU </u>	Contract: 63D50011
Lap Code <u>IEANJ</u> Çase No · <u>24569</u>	SAS NoSDG No HO931
Matrix (soil/water) <u>Water</u>	Lab Sample ID: <u>61422009</u>
Sample wi/vol: 1000 (g/mL) ml	Lab File ID: <u>H2149</u>
Level· (low/red) LOW	Date Received: 04/12/96
Moisture: decantéd: (Y/N	Date Extracted: 04/15/95
Concentrated Extract Volume: 1000	(uL) Date Analyzed. 04/19/95
Injection Volume: 2. (uL)	Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

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Number TICs Found - 2_

CONCENTRATION UNITS: (ug/L.or ug/Kg)ug/l

CAS_NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	Unknown Alcohol	18 44	5	J J
02	Unknown Alcohol	16 50	2	J
03	·			
0 4	. ,			
05			·	
05.	· · · · · · · · · · · · · · · · · · ·			
37.	4			
08				
09	, ,			
10	J			
11.	1			······································
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16			<u> </u>	
17.				-
13				
13				
13 19 20				
21				
22		i		
23		i		
2:		i		
25 26 27 28 29			1	
26 i		i	i	
27 i		<u> </u>	i	
23		<u> </u>	i	
2.5			1	
30				<u></u>
<u> </u>	<u> </u>			

CONCENTRATION UNITS: (ug/L or ug/Kg) uc/l

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name IEA-NJ (າ ຕົວກະຫະລະ ຂໍຊິກົຊກິດເລີ	HQ936

Lap Code: IEANJ Case No 24553 SAS	5 No 5DG No	<u>HQ931</u> ·
Matrix (soil/water) Water	Lad Sample ID	61422011
Sample wi/vol 1000 (g/TL)nl	Lap File ID	<u> H2150</u>
Level (low/med) : <u>TOW</u>	Date Received	04/12/96
% Moisture decanted (Y/N)_	Dace Extracted	i <u>04/15/96</u>
Concentrated Extract Volume : 1000 (c	Date Analyzed	04/19/95
Injection Volume: , 2 (uL)	, Dilution Facto	or <u>10</u>
GPC Cleanup (Y/N)N pH		

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CAS NO

į –			
108-95-2	Pnenol	. 10	υ υ
111-44-4	Bis(2-Chloroethvl)Ether -	10	Ū
95-57-3	2-Cniorophenoi	10	U U
541-73-1	1,3-Dichloropenzene	101	U I
105-45-7	1,4-Dichloropenzene	1 10 1	Ū
95-50-1	1,2-Dichloropenzene -	10	Ü
95-48-7	12-Methylphenol.	. 10 i	Ū
103-50-1	2,2'-Okybis(1-Chioropropane)'	101	Ü
105-44-5	4-Methylphenol: ;	10	Ü
521-54-7 .	N-Nitrosodi-N-Propylamine	101	· Ū .
67-72-1	Hexachloroethane	1 10	U
93-95-3	Nitropenzene	10	Ū I
73-59-1	Isophorone -	101	Ü
38-75-5	2-Nitrophenol	10	Ü
105-67-9	2,4-Dimethylphenol	10	- U
111-91-1	Bis(2-Chloroethoxy) Methane	10 1	Ü
120-33-2	2,4-Dichlorophenol	10 1	Ü
120-82-1	1,2,4-Trichloropenzene	10	U i
91-20-3	Naphthalene .	10	Ü
106-47-3	4-Chioroaniline	1 10 (Ü
37-53-3	Hexachioropulazione	1 10 1	Ü
59-50-7	(4-Chloro-3-Methylphenol	10	<u> </u>
91-57-6	2-Methylnaphthalene	1 10	Ū Į
77-17-1	Hexachlorocyclopentadiene	101	G in
83-05-2	2,4,5-Trichlorophenol	101.	. U. II
95-95-4	12,4,5-Trichlorophenol	25 1	Ü 1
91-55-7	2-Chloronaphonalene	! 10 !	J'
33-74-4	2-Nitroaniline	i 25	. 0
131-11-3	Dimethylphthalate	101	U .
203-95-3	Acemagnanylene	101	Ü
505-20-2	2,6-Dinitrotoluene	10	<u> </u>
99-09-2	3-Nicroaniline)	. 25 1	U I
33-32-9	Acenaghthere	1 10 1	
22-22-3	. <u>vosga.;cg.</u>	<u>: </u>	

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i.		10		EPA SAMPLE NO	3
	SEMEVOL	ATILE ORGANICS.	ANALYSIS DATA S		
	[,		HQ936	
Lab Name: <u>IE</u>	A-NJ - :	cont	ract <u>88050011</u>		-
Lab Code <u>IE</u>	ANJ Case No	24569 SAS NO	SDG N	o <u>HO931</u>	
Matrix. (soi	l/watem) <u>Water</u>	-	. Lab Sample	ID: <u>51422011</u>	
Sample wt/vo	1000	(g/mL) <u>ml</u>	Lap File I	O. <u>H2150</u>	
Level· (lo:	w/med) : <u>LOW</u>		Date Receis	/ed. <u>04/12/96</u>	
& Moiscure:	decant	ed. (Y/N)	Date Extra	sted: <u>04/16/96</u>	
Concentrated	Extract Volume	1000 (uL)	Date Analyz	zed <u>04/19/95</u>	
Injection Vol	<u> </u> บทอง 2(บ	<u>į</u> ,	Dilution Fa	actor: 1 0	
	(Y/N) <u>N </u>			-	
010 02041140	i	-	~ 4		,
ī	. '		*		*
			NCENTRATION UNI	·m.n -	
CAS NO.	COMPOUND		ig/L.or_ug/Kg)ug		•
	, , , , , , , , , , , , , , , , , , , ,			=======================================	1
51-28-5	2,4-Dinitroph	i enol		25 0	ت ا
	14-Nicrophenol			25 0	
132-64-9	Dibenzoiuran	 	·	10 0	
	12,4-Dinitroto	Luene]	10 U	
	Distrylphonal			10 0	
7005-72-3	4-Chioropheny	I-Pnenyl Ether		10 0	1
36-73-7	Fluorene	1	1	1-0 0	-
100-01-5	4-Nitroaniline	2	. 1	25 0	ĺ
534-52-1	14,6-Dimitro-2	Methylphenol	. i	25 0	l
36-30-5	N-Nitrosodione	enylamine (1)	1	10 0	ĺ
101-55-3	4-Bromophenyl	Phenylether		10 0	ł
113-74-1	Rexachloropen:	zene	• !	10 . 0	
87-85-5	Pentachloroone	eroi	· .i	25 0)	UT
85-01-3	Phenanthrene		- 1	10 U	
	Anchracene		- 1	10 0	
36-74-3	Carbazole .		- 54	10 0	1
84-74-2	Di-N-Bucylone	nalate		10 'U	ļ
	Fluoranthene		- }	10 0	
	Pyrene			10 0	
35-53-7	Bucylpenzylpho		1	10 0	1
91-94-1	3,3'-Dichioros			10 0	J
55-55-3	Senzo (A) Anthra	icene	1	10 j ;	i
218-01-9	Chrysene			10 1 0 1	
117-31-7	Bis(2-Ethylnex			10 0	
117-34-0 i	Di-N-Octvionth	lalate	!	10 [.0	

FORM I SV-2

: Benzo(B) Fluoranthene

| Benzo(B) Fluoranthene | Benzo(K) Fluoranthene | Benzo(A) Pyrene | Indeno(1,2,3-Cd) Pyrene | Dipenz(A,H;Anthracene | Benzo(G,H, I) Perviene

TC 6(12/75

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OLM03 0

205-99-2

207-03-9

50-32-3

193-39-5

53-70-3

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) LF SEMIVOLATILE ORGANICS ANA		PA SAMPLE NO
TENTATIVELY IDENTIFI	ED COMPOUNDS	HQ936
Lab Name IEA-NJ Contrac	c. <u>55050011 </u> [
Lab Code: <u>IEANJ</u> Case No <u>24569</u> SAS No	SDG No.	<u>HQ931</u>
Matrix (soil/water) Water	Lap Sample ID	61422011
Sample wc/vol 1000 (g/mL) ml	Lap File ID.	H2150
Level. (low/med) LOW	Date Received:	04/12/95
% Moisture decanted (Y/N)	Date Extracted	04/16/95
Concentrated Extract Volume 1000 (uL)	Date Analyzed:	04/19/96
Injection Volume: (2(uL)	Dilution Facto	r: 10
GPC Cleanup: (Y/N) N - pH:	<i>:</i>	

Number TICs Found! 7

CONCENTRATION UNITS. (ug/L or ug/Kg)ug/l

CAS NUMBER	COMPOUND NAME	RT ·	EST CONC	Q
01	Unknown Alcohol	18 44	8	J
02	Ünknown	16 50	4	J
03	l Unknown	20.15	4	J
04.	Unknown Alcohol	13 15	4	J
05	Unknown Alcohol	19.35	3	ا ت
06	, Unknown	21 25	2	Ĵ
07 301020	Unknown amide	21 03	2	Nr
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EPA SAMPLE NO . 15 ° E SEMIVOLATILE ORGANICS ANALYSIS DATA SHEE

______Contract. <u>83050011</u>

HQ938

Lab Code. <u>IFANJ</u> Case No. <u>24569</u> SAS No.. _____ SDG No <u>HO931</u>

Lab Name: <u>IEA-N</u>U

. Lab Sample ID: <u>61422012</u> Matrix. (soil/water) Soil

30 · (g/mL) a Lab File ID <u>H2164</u> Sample wt/vol

Level. (low/med) LOW - Date Received: 04/12/96

Date Extracted.04/17/96 % Moisture: 35 decanted. (Y/N)N-

Concentrated Extract Volume: 500 . (uL) Date Analyzed 04/22/96_

Injection Volume: 2 (uL) Dilution Factor: 1 0

рн.<u>в 07</u> GPC Cleanup: (Y/N) Y '

CONCENTRATION UNITS: CAS NO. COMPOUND (ug/L or ug/Kg)<u>ug/kg</u> Q

103-95-2
95-57-8 2-Chlorophenol 510 U 541-73-1 1,3-Dichloropenzene 510 U 105-46-7 1,4-Dichloropenzene 510 U 95-50-1 1,2-Dichloropenzene 510 U 95-48-7 2-Mechylphenol 510 U 103-60-1 2,2'-Okvbis(1-Chloropropane) 510 U 106-44-5 4-Mechylphenol 510 U 621-64-7 N-Nitrosodi-N-Propylamine 510 U 67-72-1 Haxachloroetnane 510 U 98-95-3 Nitropenzene 510 U 88-75-5 2-Nitrophenol 510 U 105-67-9 2,4-Dimetrylphenol 510 U 111-91-1 Bis(2-Chloroethoxy) Methane 510 U 120-33-2 2,4-Dichlorophenol 510 U 120-32-1 1,2,4-Trichlorobenzene 510 U 91-20-3 Naphthalene 510 U 106-47-3 4-Chloroaniline 510 U 57-63-3 Hexachloropicadiene 510 U
541-73-1
1,3-Dichloropenzene
95-50-1 1,2-Dichloropenzene 510 U 95-48-7 2-Mechylphenol 510 U 103-60-1 2,2'-Okybis(1-Chloropropane) 510 U 106-44-5 4-Mechylphenol 510 U 621-64-7 N-Nitrosodi-N-Propylamine 510 U 57-72-1 Hexachloroethane 510 U 98-55-3 Nitropenzene 510 U 78-59-1 Isophorone 510 U 88-75-5 2-Nitrophenol 510 U 105-67-9 2,4-Dimethylphenol 510 U 111-91-1 Bis(2-Chlorophoxy) Methane 510 U 120-33-2 2,4-Dichlorophenol 510 U 120-32-1 1,2,4-Trichlorophenol 510 U 106-47-3 1,2,4-Trichlorophenol 510 U 106-47-3 1,2,4-Directorophenol 510 U 106-47-3 1,2,4-Trichlorophenol 510 U 106-47-3 1,2,4-Trichlorophenol 510 U 106-47-3 1,2,4-Trichlorophenol 510 U
95-48-7 2-Methylphenol
103-60-1 2,2'-0kybis(1-Chioropropane) 510 U 106-44-5 4-Methylphenol 510 U 621-64-7 N-Nitrosodi-N-Propylamine 510 U 67-72-1 Hexachloroethane 510 U 98-95-3 Nitropenzene 510 U 78-59-1 Isophorone 510 U 88-75-5 2-Nitrophenol 510 U 105-67-9 2,4-Dimethylphenol 510 U 111-91-1 Bis(2-Chloroethoky) Methane 510 U 120-33-2 2,4-Dichlorophenol 510 U 120-32-1 1,2,4-Trichlorobenzene 510 U 91-20-3 Naphthalene 510 U 106-47-3 4-Chloroaniline 510 U 37-63-3 Hexachloropitadiene 510 U 59-50-7 14-Chloro-3-Methylphenol 510 U
106-44-5
621-64-7 N-Nitrosodi-N-Propylamine 510 U 67-72-1 Hexachloroethane 510 U 98-95-3 Nitropenzene 510 U 78-59-1 Isophorone 510 U 88-75-5 2-Nitrophenol 510 U 105-67-9 2,4-Dimethylphenol 510 U 111-91-1 Bis (2-Chloroethoxy) Methane 510 U 120-33-2 2,4-Dichlorophenol 510 U 120-32-1 1,2,4-Trichlorobenzene 510 U 91-20-3 Naphthalene 510 U 106-47-3 4-Chloroaniline 510 U 57-63-3 Hexachlorobutadiene 510 U 59-50-7 14-Chloro-3-Methylphenol 510 U
57-72-1 Hexachloroethane 510 U 98-95-3 Nitrobenzene 510 U 78-59-1 Isophorone 510 U 88-75-5 2-Nitrophenol 510 U 105-67-9 2,4-Dimethylphenol 510 U 111-91-1 Bis (2-Chloroethoxy) Methane 510 U 120-33-2 2,4-Dichlorophenol 510 U 120-32-1 1,2,4-Trichlorobenzene 510 U 91-20-3 Naphthalene 510 U 106-47-3 4-Chloroaniine 510 U 37-63-3 Hexachloropitadiene 510 U 59-50-7 4-Chloro-3-Methylphenol 510 U
38-95-3
78-59-1 Isophorone
38-75-5 2-Nitrophenol 510 U 105-67-9 2,4-Dimethylphenol 510 U 111-91-1 Bis(2-Chloroethoxy) Methane 510 U 120-33-2 2,4-Dichlorophenol 510 U 120-32-1 1,2,4-Trichlorobenzene 510 U 120-32-1 1,2,4-Trichlorobenzene 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline 510 U 106-47-3 A-Chloroaniline
105-87-9 2,4-Dimethylphenol 510 U 111-91-1 Bis(2-Chloroethoxy) Methane 510 U 120-83-2 2,4-Dichlorophenol 510 U 120-82-1 1,2,4-Trichlorobenzene 510 U 120-3 Naphthalene 510 U 106-47-3 4-Chloroaniline 510 U 106-47-3 4-chlorobenzene 510 U 106-47-3 4-Chlorobenzene 510 U 106-47-3 4-Chlorobenzene 510 U 106-47-3 4-Chlorobenzene 510 U 106-47-3 4-Chlorobenzene 510 U 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-47-3 106-
111-91-1 Bis(2-Cnloroethoxy) Methane 510 U 120-33-2 12,4-Dichlorophenol 510 U 120-32-1 1,2,4-Trichlorobenzene 510 U 91-20-3 Naphthalene 510 U 105-47-3 14-Cnloroantine 510 U 37-63-3 Hexachlorophadiene 510 U 59-50-7 14-Cnloro-3-Methylphenol 510 U
120-33-2 12,4-Dichlorophenol 510 U 120-32-1 1,2,4-Trichloropenzene 510 U 91-20-3 Naphthalene 510 U 105-47-3 4-Chloroantline 510 U 57-63-3 Hexachloroptadiene 510 U 59-50-7 4-Chloro-3-Methylphenol 510 U
120-32-1
91-20-3 Naphthalene 510 U 106-47-3 4-Chloroaniline 510 U 57-63-3 Hexachlorobitadiene 510 U 59-50-7 4-Chloro-3-Methylphenol 510 U
106-47-3 4-Chloroaniline 510 U 57-63-3 Hexachlorobitadiene 510 U 59-50-7 4-Chloro-3-Methylphenol 510 U
37-63-3 Hexachloropicadiene 510 U 59-50-7 4-Chloro-3-Methylphenol 510 U
59-50-7 4-Chioro-3-Methylphenol 510 U
91-57-6 2-Methylhaphthalene 510 U
77-47-4 Hexachlorocyclopentaciene 510 U
88-06-2 2,4,6-Trichlorophenol 510 U
95-95-4 2,4,5-Trichiorophenol 1300 U
91-55-7 2-Chioronaphthalene 510 U
33-74-4 2-Nicroaniline 1300 U
131-11-3 Dimeshylphthalase 510 U
208-96-8 Acenaphthylene 510 U
606-20-2 2,6-Dinitrololuene
99-09-2 3-Nigroaniline ' 1300 U
33-32-9 Acenabathena

FORM I SV-1

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HQ938

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET.

Lab Code <u>IFANJ</u> Case No. · <u>24559</u> SAS No. ____ · SDG No <u>HQ931</u>

Lab Sample ID: <u>61422012</u> Matrix (soil/water) Soil

Sample wt/vol $: 30 (g/\pi L)g$ Lab File ID· <u>H2164</u>

Level (low/med) LOW Date Received: 04/12/95

 $\frac{35}{100}$ decanted. (Y/N) N Date Extracted: 04/17/96

Concentrated Extract Volume 500 (uL) Date Analyzed: 04/22/96

Injection Volume $\frac{2}{2}$ (uL) Dilution Factor: 1 0

GPC Cleanup: (Y/N)Y pH.8.07

Lab Name: <u>IEA-NU : </u>

CONCENTRATION UNITS (ug/L or ug/Kg) ug/kc Q CAS NO. COMPOUND

			==-
31-23-5	2,4-Dinitrophenol	1300	U
100-02-7	4-Nitrophenol :	1 1300 1	Ü
132-54-9	Dibenzofuran	510 [U i
121-14-2	12,4-Dinitrocoluene	510	U
84-55-2	Diethylonchalate	510	U
7005-72-3	4-Chlorophenyl-Phenyl Ether	510 (Ū I
35-73-7	Fluorene	510	Ū
100-01-5	4-Nitroaniline	1 1300	Ū
534-52-1	4,6-Dinitro-2-Methylphenol	1300	U
35-30-5	N-Nierosodionenylamine (1) -	510	U I
101-55-3	4-Bromophenyl-Phenylether	510	Ü
118-74-1	Hexacnloropenzene	510 (U
87-86-5	Pentachlorophenol	1300	U
35-01-3	Phenanchrene	72	J
120-12-7	Anthracene	510	U, i
35-74-8	! Carbazole	510 (Ü
34-74-2	Di-N-Bucylonanalace	510	Ü
206-44-0	Fluoranchene	510	Ü
129-00-0	Pyrene	1 510	Ū
35-55-7	Butylpenzylphthalace	510	Ü
91-94-1	3,3'-Dichloropenzidine	510	U
56-55-3	Benzo(A) Anthracene	510 1	Ű
213-01-9	Corvsene	510	Ü
117-31-7	Bis(2-Echylnexyl)Phinalace	510 !	Ū !
117-84-0 .	Di-N-Occylonenalace	1 510 1	Ü
205-99-2	Banzo(B) Fluoranthene	510]	Ü
207-03-9	Benzo(K) Fluoranthene	510	Ü
50-32-3	Benzo(A) Pyrene	520 1	0
193-39-5	Indeno(1,2,3-Cd)Pyrene	1 510 T	Ü
53-70-3	, Dipenz (A, H, Anthracene	510	· U
191-24-2	Banzo(G, H I) Perviene	510 1	U i l

FORM I SV-2

10 Girl96

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: EPA SAMPLE NO. SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET.

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Lab Name · IEA-NJ	Contract 69050011
Lap Code. <u>IEANJ</u> Case No . <u>24559</u> Si	
Matrix (soil/water) Soil	Lap Sample ID <u>61422012</u>
Sample wc/vol. 30 (g/mL)g	Lab File ID <u>H2164</u>
Level: (low/med) LOW	Date Received: 04/12/95
% Moisture: 35 decanted: (Y/N)	Date Extracted: 04/17/96
Concentrated Extract Volume. 500	(uL) Date Analyzed. 04/22/96
Injection Volume: 2 (uL)	Dilution Factor: 1.0
GPC Cleanup (Y/N) Y pH:8.07	

Number TICs Found ! 6

CONCENTRATION UNITS: (ug/L or ug/Kg)ug/kg

<u> </u>		1	<del></del>	
CAS NUMBER	COMPOUND NAME	RT	EST CO	NC. Q
01.	Aldol Condensation Product	4 23		300 JAB
02.	Unknown	3 32		990   JB
03	Unknown .	5.07		540 i J
04	Unknown -	23.27		±20   J
0.5	! Unknown	16 31		400 Q
05	Unknown Acid	18 24		270   J
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## PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA	SAMPLE	NO.
HQ9	31	

Lab File ID: <u>D43CLP88E_027</u> >

cab	Name:	IEA-NJ	:	Contract:	<u>66D50011</u>

Matrix: (soil/water): WATER Lab Sample ID: 61422001

Sample wt/vol: 970 | (g/ml) ml.

Moisture: ____ decanted: ___ Date Received: 04/12/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 04/17/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/23/96

Injection Volume: | 1.0 (uL) - Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:____ Sulfur Cleanup: Y

CAS NO. COMPOUND CONCENTRATION UNITS: Q (ug/L or ug/Kg) UG/L

319-84-6	alpha-BHC	0.05	U
319-85-7	Beta-BHC	0.05	U
319-85-8	delta-BHC	•   0.05	U
58-89-9	gamma-BHC (Lindane)	. 0.05	U
76-44-8	Heptachlor	0.05	Ü
309-00-2	Aldrin;	0.05	Ü
1024-57-3	Heptachlor Epoxide	0.05	Ü
959-98-8	Endosulfan I	0.05	Ü
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	Ü
72-20-8	Endrin:	0.10	Ü
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan Sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	T U
72-43-5	Mechoxychlor	0.52	U
53494-70-5	Endrin Ketone	- 0.10	I U
7421-93-4	Endrin Aldehyde	0.10	Ū
5103-71-9	alpha-Chlordane	0.05	Ū
5103-74-2	gamma-Chlordane	0.05	<u> </u>
8001-35-2	Toxaphene	5.2	Ü
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.1	Ü
11141-16-5	Aroclor-1232	1.0	Ü
53469-21-9	Aroclor-1242	1.0	ÜÜ
12672-29-6	Aroclor-1248	1.0	Ü
11097-69-1	Aroclor-1254	1.0	Ü
11096-32-5	1 3-0010-1260	1 1 1 1	

FORM 1 PEST

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#### PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. HQ932

Lab Name: IEA-NJ 1. Contract: 68D50011

Lab Code: <u>IEANJ</u> - Gase No.: <u>24569</u> SAS No.: _____ SDG No.: <u>HQ931</u>

Matrix: (soil/water): SOTL Lab Sample ID: 61422004

Sample wt/vol: 30 · (g/ml) g Lab File ID: <u>D43CLP883_014</u>

Moisture: 24 decanted: N Date Received: 04/12/95

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/17/96

Concentrated Extract Volume: 5000' (uL) Date Analyzed: 04/22/96

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8 Sulfur Cleanup: Y

CAS NO. COMPOUND CONCENTRATION UNITS: (ug/L or ug/kq) UG/kG

319-84-6 |alpha-BHC | ΤÜ 319-35-7 | Beta-BHC 2.2 U 319-35-8 | delta-BHC 2.2 U 58-89-9 I gamma-BHC (Lindane) ΙÜ 75-44-8 | Heptachlor 2.2 1 U

309-00-2 Aldrin ΙŪ 1024-57-3 | Heptachlor Epoxide 959-99-8 Endosulfan I 50-57-1 Dielarin 72-55-9 4,4'-DDE 4.4 72-20-3 Endrin 4.4 U 33213-65-9 | Endosulfan II 4.4 U 14,4'-DDD 72-54-8 4.4 IU 1031-07-8 | Endosultan Sulface 4.4 Τữ 50-29-3 14,4'-DDT 4.4 Ū UT 72-43-5 Methoxychlor 77 53494-70-5 | Endrin Ketone 4.4 ΙŪ 7421-93-4 | Endrin Aldenyde 4.4 1.0 5103-71-9 | alpha-Chlordane 2.2 Ū 5103-74-2 Igamma-Chlordane 1 U 3001-35-2 | Toxapnene 220 ü 12674-11-2 | Aroclor-1016 44 11104-23-2 | Aroclor-1221 Ū 88 11141-15-5 | Aroclor-1232 44 ΙÜ 53469-21-9 | Aroclor-1242 44 ΙÜ 12672-29-6 | Aroclor-1248 1.0 44

FORM 1 PEST

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11097-69-1 | Aroclor-1254 11096-32-5 | Aroclor-1260

#### | 1D PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA	SAMPLE	NO.
H09	33	

Lab Name: <u>TEA-Nu f</u> Cont	
Lab Code: <u>IFANJ</u> Case No.: <u>24559</u> SAS No	: SDG No.: <u>HQ931</u> -
Matrix: (soil/water): WATER	Lab Sample ID: <u>61422007</u>
Sample wc/vol: 970 (g/ml) ml	Lab File ID: D43CLP88E 023
Moisture: decanted:	Date Received: <u>04/12/96</u>
Extraction: (SepF/Cont/Sonc) SEPF	Date Extracted: 04/17/96
Concentrated Extract Volume: 10000 (uL)	Date Analyzed: 04/23/96
Injection Volume: 1.0 (uL)	Dilution Factor: 1.0
GPC Cleanup: (Y/N)N pH:	Sulfur Cleanup: Y
CAS NO. COMPOUND	CONCENTRATION UNITS: Q (ug/L or ug/Kg) UG/L

·		·	
319-84-6	alpha-BHC		0.05   U
319-85-7	Beta-BHC		0.05   U
319-86-8	delta-BHC	•   -	0.05 ( U
58-89-9	gamma-BHC (Lindane)		0.05   U
75-44-8	) Heptachlor		0.05   U
309-00-2	Aldrin;		0.05 [ U
1024-57-3	Heptachlor Epoxide		0.05   U
959-98-8	Endosulfan I	_	0.05 0
50-57-1	Dieldrin		0.10 0
72-55-9	14,4'-DDE		0.10 Ü
72-20-8	Endrin		0.10   0
33213-65-9	Endosulfan II		0.10   U
72-54-8	4,4'-DDD		0.10 U
1031-07-8	Endosulfan Sulfate		0.10   U
50-29-3	4,4'-DDT		0.10   U
72-43-5	Methoxychlor	-	0.52   U
53494-70-5	Endrin Ketone	l l	0.10   0 .
7421-93-4	Endrin Aldehyde	i.	0.10 [ 0 ]
5103-71-9	alpha-Chlordane	-	0.05   0
5103-74-2	gamma-Chlordane	j	0.05   0
8001-35-2	Toxaphene		5.2   U
12674-11-2	Aroclor-1016		1.0   U
11104-28-2	Aroclor-1221		2.1   0
11141-16-5	Aroclor-1232		1.0   0
53459-21-9	Aroclor-1242		1.0   0
12672-29-5	Aroclor-1248		1.0 10
11097-59-1	Aroclor-1254		_ 1.0   U .
11095-32-5	Aroclor-1260		1 0 i ü
<u></u>			

FORM 1 PEST -

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#### ! 1D PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA	SAMPLE	NO.
H09	34 .	~

Lab Name: TEA-NJ - Contract: 68D50011

Lab Code: <u>IEANJ</u> Case No.: <u>24569</u> SAS No.: _____ - SDG No.: <u>HO931</u>

Matrix: (soil/water): SOIL Lab Sample ID: 61422008

Sample wt/vol: 30 (g/ml) g Lab File ID: <u>D43CLP88E_021</u>

Moisture: 21 decanted: N Date Received: 04/12/96

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/17/96

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 04/23/96

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:8.2 Sulfur Cleanup: Y

CAS NO. COMPOUND CONCENTRATION UNITS: Q (ug/L or ug/Kg) <u>UG/KG</u>

319-84-6	alpna-BHC	2.1	Ū	
319-85-7	Beta-BHC	2.1		ÚZ.
319-86-8	delta-BHC :	2.1	U	
58-89-9	gamma-BHC (Lindane)	2.1	Ū	
76-44-8	Heptachlor	2.1	Ŭ.	
309-00-2	Aldrin;	2.1	Ū	
1024-57-3	Heptachlor Epoxide	2.1	Ŭ	
959-98-8	Endosulfan I	2.1	Ü	
60-57-1	Dieldrin	4.2	U	
72-55-9	4,4'-DDE -	4.2	U	
72-20-8	Endrin;	4.2	U	
33213-65-9	Endosulfan II	4.2	Ü	
72-54-8	4,4'-DDD	4.2	U	
1031-07-8	Endosulfan Sulfate	4.2	Ü	
50-29-3	4,4'-DDT	4.2	U II	22
72-43-5	Methoxychlor	21	U	-
53494-70-5	Endrin Ketone	4.2	Ü	
7421-93-4	Endrin Aldenyde	4.2	Ü	
5103-71-9	alpha-Chiordane	2.1	Ü	
5103-74-2	gamma-Chlordane :	2.1	Ü	
8001-35-2	Toxaphene	. 210	U	
12674-11-2	Aroclor-1015	42	Ŭ	
11104-28-2	Aroclor-1221	84	U	
11141-16-5	Aroclor-1232	42	Ü	
53469-21-9	Aroclor-1242	42 _	U	
12672-29-6	Aroclor-1248	42	U	
11097-69-1	Aroclor-1254	42	ŭ	
11096-82-5	Aroclor-1260	42	Ŭ·	

FORM 1 PEST

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## PESTICIDE ORGANICS ANALYSIS DATA SHEET

SAMPLE	NO.
 35	
	SAMPLE 35

Lap Name: ABA-No Contr	act: <u>55050011</u>
Lab Code: <u>IEANJ</u> Case No.: <u>24569</u> SAS No.:	SDG No.: <u>HQ931</u>
Matrix: (soil/water): WATER	Lab Sample ID: <u>61422009</u>
Sample wc/vol: <u>970 (g/ml) ml</u>	Lab File ID: D4BCLP83E_024
Moisture: decanted:	Date Received: 04/12/96
Extraction: (SepF/Cont/Sonc) SEPF	Date Extracted: 04/17/96
Concentrated Excract .Volume: 10000 (uL)	Date Analyzed: 04/23/96
Injection Volume:   1.0 (uL)	Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH:	Sulfur Cleanup: Y_
<u>:</u> .	
CAS NO. COMPOUND (	CONCENTRATION UNITS: Q

319-84-6	alpha-BHC	0.05	
319-85-7	Beta-BHC		J
319 86-8	delta-BHC :	. 1	U
58-89-9	gamma-BHC (Lindane)		J
76-44-8	Heptachlor	,	J
309-00-2	Aldrin	0.05   0	J
1024-57-3	Heptachlor Epoxide	,	J
959-98-3	Endosulfan I	0.05   0	7
60-57-1	Dieldrin	0.10   0	J
72-55-9	4,4'-DDE	0.10   0	J
72-20-8	Endrin	0.10   0	J   {
33213-65-9	Endosulfan II	0.10   0	<u> </u>
72-54-8	4,4'-DDD	0.10 (	
1031-07-8	Endosulfan Sulfate	0.10   0	<del>]</del>
50-29-3	4,4'-DDT	0.10   0	<del>,                                    </del>
72-43-5	Methoxychlor	0.52   0	J
53494-70-5	Endrin Kecone	0.10   0	
7421-93-4	Endrin Aldehyde	0.10   0	J
5103-71-9	alpha-Chlordane	0.05 0	
5103-74-2	gamma-Chlordane	0.05 [ 0	
3001-35-2	Toxaphene	5.2   0	
12674-11-2	Aroclor-1016	1.0 10	
11104-28-2	Aroclor-1221	2.1   0	
11141-16-5	Aroclor-1232	1.0   0	7
53469-21-9	Aroclor-1242	1.0 10	J
12672-29-6	Aroclor-1248	1.0 11	;
11097-69-1	Aroclor-1254	1.0 [0	, i
11095-32-5	Aroclor-1260	10 10	

FORM 1 PEST

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(ug/L or ug/Kg) UG/L

#### 1D PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. HQ936

Lab Name: <u>IEA-NJ </u>	_ Contract: <u>63D50011</u>
Lab Code: <u>IEANJ</u> Case No.: <u>24569</u>	SAS No.: SDG No.: <u>H0931</u>
Macrix. (soil/water): WATER	Lab Sample ID: 61422011
Sample wt/vol: 970 : (g/ml) ml	Lab File ID: <u>D43CLP88E_025</u>
Moisture: decanted:	Date Received: <u>04/12/95</u>
Extraction: (SepF/Cont/Sonc) SEPF	Date Extracted: <u>04/17/96</u>
Concentrated Extract Volume: 10000	(uL) Date Analyzed: 04/23/95
Injection Volume: 1.0 (uL)	Dilution Factor: 1.0
GPC Cleanup: (Y/N)N pH:	Sulfur Cleanup: Y
CAS NO. COMPOUND	CONCENTRATION UNITS: Q (ug/L or ug/Kg) <u>UG/L</u>

319-84-5	alpha-BHC	0.05   U	
319-85-7	Beta-BHC   -	0.05   U	UT
319-85-9	delca-BHC	0.05   0	
58-89-9	gamma-BHC (Lindane)	0.05   0	
75-44-8	Reptachlor	0.05   0	
309-00-2	Aldrin	0.05 j U	
1024-57-3	Heptachlor Epoxide	0.05 ( V	
959-98-8	Endosulfan I	0.05   0	
60-57-1	Dieldrin	0.10 U	
72-55-9	4,4'-DDE	0.10 U	
72-20-3	Endrin	0.10 0	
33213-65-9	Endosulfan II	0.10   U	
72-54-8	4,4'-DDD	0.10   U	
1031-07-8	Endosulfan Sulface	0.10   0	
50-29-3	4,4'-DDT	0.10   U	سدر
72-43-5	Methoxychlor	0.52   U	
53494-70-5	Endrin Ketone	0.10 ( U	
7421-93-4	Endrin Aldehyde	0.10 U	
5103-71-9	alpha-Chlordane	0.05   U	
5103-74-2	gamma-Chlordane	0.05   0	
8001-35-2	Toxaphene	5.2   0	
12674-11-2	Aroclor-1016	1.0   U	
11104-28-2	Aroclor-1221	2.1   0	
11141-16-5	Aroclor-1232	1.0   0	
53469-21-9	Aroclor-1242	1.0   U	
12572-29-5	Aroclor-1248	1.0 I <u>U</u>	
11097-59-1	Aroclor-1254	1.0 0	
11095-32-5	Aroclor-1260	100	

FORM 1 PEST

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### PÉSTICIDE ORGÂNICS ANALYSIS DATA SHEET

EPA	SAMPLE	NO.
∺Q9	38	

Lap Name: IEA-NJ Contract: 68D50011

Lab Code: IEANJ . Case No.: 24559 SAS No.: _ // SDG No.: H0931

Matrix: (soil/water):SOIL_

Lab Sample ID: <u>61422012</u>

Sample wt/vol: 30 (g/ml) g

Lab File ID: D4BCLP33E 022

Moisture: 35 decanted: N

Date Received: <u>04/12/96</u>

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 04/17/96

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 04/23/96

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup:

(Y/N)Y

pH: 8.1

Sulfur Cleanup: Y

CAS NO.

J.

COMPOUND

CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>

c+4.4				
319-84-5	alpha-BHC	-	2.5	U
319-85-7	Beta-BHC		2.5	10
319-35-8	delta-BHC :	_ ·	2.0	J
58-89-9	gamma-BHC (Lindane)		2.6	TU
76-44-8	Heptachlor	· ·	2.5	U   -
309-00-2	Aldrin	-	1.7	13
1024-57-3	Heptachlor Epoxide	-	2.6	I U
959-98-8	Endosulfan I		2.6	U
60-57-1	Dieldrin		5.1	TU.
72-55-9	[4,4'-DD2		5.1	Ü
72-20-8	Endrin		5.1	1- <b>U</b>
33213-65-9	Endosulfan II		5.1	U
72-54-8	(4,4'-DDD		5.1	10
1031-07-8	Endosulfan Sulface		5.1	U
50-29-3	4,4'-DDT	1	5.1	T U
72 - 43 - 5	Methoxychlor	1	26	Ū
53494-70-5	Endrin Ketone		5.1	U
7421-93-4	Endrin Aldenyde		5.1_	Ū
5103-71-9	alpha-Chlordane		2.6_	T U
5103-74-2	gamma-Chlordane		- 2.5	I U
8001-35-2	Toxaphene		260	U
12574-11-2	Aroclor-1015		51	- U
11104-28-2	Aroclor-1221		100	Ū
11141-16-5	Aroclor-1232		51	U
53469-21-9	Aroclor-1242		51	U
12672-29-6	Aroclor-1243		51	Ü, İ
11097-59-1	Aroclor-1254		51	U
11095-32-5	Aroclor-1260		51	U
			·····	

FORM 1 PEST

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## HYDROLOGIC LABORATORIES, INC

## Sample Cross Reference Table

Company Name: URS Consultants

HydroLogic Login Number: L2695

HydroLogic Sample Number	Client Sample Identification	Sample Date/Time
L2695-1	DC-SW-5	09 Apr 96 12:35
L2695-2	DC-SW-4	09 Apr 96 12:35
L2695-3	DC-SW-3	09 Apr 96 13:20
L2695-4	DC-SW-1 MS/MSD	09 Apr 96 16:45
L2695-5	DC-SW-3	09 Apr 96 13:20
L2695-6	DC-SW-4	09 Apr 96 12:35
L2695-7	DC-SW-2	09 Apr 96 14:00 -
L2695-8	DC-SW-1	09 Apr 96 16:45
L2695-9 ,	DC-SW-5	09 Apr 96 12:35
L2695-10	DC-SW-1	09 Apr 96 16:45
L2695-11	DC-SW-2	09 Apr 96 14:00
L2695-12	DC-SW-1 MS/MSD	09 Apr 96 16:45
L2695-13	LC-SW-1	10 Apr 96 11:00
L2695-14	LC-SW-1	10 Apr 96 11:00
L2695-15	DL-SW-1 MS/MSD ·	10 Apr 96 10:20
L2695-16	DL-SW-3	09 Apr 96 17:20
L2695-17	DL-SW-1	10 Apr 96 10:20
L2695-18	DL-SW-1	10 Apr 96 10:20
L2695-19	DL-SW-1	"10 Apr 96 10:20"
L2695-20	DL-SW-4	09 Apr 96 16:45
L2695-21	DL-SW-2	09 Apr 96 18:20
L2695-22	DL-SW-4	09 Apr 96 16:45
L2695-23	DL-SW-3	09 Apr 96 17:20
L2695-24	DL-SW-2	09 Apr 96 18:20
L2695-25 '	DL-SW-S	09 Apr 96 16:45
L2695-26	DL-SW-5	09 Apr 96 16:45

## DATE AND TIME SUMMARY

Company Name: URS Consultants Project: DURANGO CU

HydroLogic Login Number: L2695

METHOD	COLLECTED	PREPARED	ANALY	ZED	
SAMPLE NUMBER: L2695-1	CLIENT ID: I	OC-SW-5	* * *	MATRIX: Aqueous	
MCAWW, 130 2	04/09/96 12:35	04/16/96	04/16/96	10.17	
SAMPLE NUMBER: L2695-2	CLIENT ID:	C-SW-4		MATRIX: Aqueous	
MCAWW, 130 2	04/09/96 12:35	04/16/96	04/16/96	10.17	
SAMPLE NUMBER: L2695-3	CLIENT ID: 1	OC-SW-3	s.	MATRIX: Aqueous	
MCAWW, 130.2	04/09/96 13 20	04/16/96	04/16/96	10 17.	
SAMPLE NUMBER: 12695-4	CLIENT ID: 1	OC-SW-I MS/MSD	1	MATRIX: Aqueous	
MCAWW, 415 1	04/09/96 16 45	04/16/96	04/16/96	09·25	
SAMPLE NUMBER: L2695-5	CLIENT ID: 1	C-SW-3	·	MATRIX: Aqueous	
MCAWW, 415 1	04/09/96 13 20	04/16/96	04/16/96	09 25	
SAMPLE NUMBER: L2695-6	. CLIENT ID: D	OC-SW-4		MATRIX: Aqueous	
MCAWW, 415 I	04/09/96 12:35	04/16/96	04/16/96	09 25	
SAMPLE NUMBER: L2695-7	CLIENT ID: E	C-SW-2	÷ ,	MATRIX: Aqueous	
MCAWW, 415 I	04/09/96 14 00	04/16/96	04/16/96	09.25	
SAMPLE NUMBER: L2695-8	· CLIENT ID: D	C-SW-1		MATRIX: Aqueous	
MCAWW, 415 1	04/09/96 16.45	04/16/96	04/16/96	09 25	
SAMPLE NUMBER: L2695-9	CLIENT ID: D	C-SW-5	•	MATRIX: Aqueous	
MCAWW, 415 1	04/09/96 12:35	04/16/96	04/16/96	09 25	
SAMPLE NUMBER: L2695-10	CLIENT ID: D	C-SW-1		MATRIX: Aqueous	
MCAWW, 130 2	04/09/96 16:45	04/16/96	04/16/96	10 17	
SAMPLE NUMBER: L2695-11	CLIENT ID: D	C-SW-2	,	MATRIX: Aqueous	
MCAWW, 130 2	04/09/96 14:00	04/16/96	04/16/96	10 17	
.:					

Page 1

## DATE AND TIME SUMMARY

Company Name: URS Consultants Project: DURANGO CU

HydroLogic Login Number: L2695

METHOD	COLLECTED	PREPARED	ANALY	ZED
SAMPLE NUMBER: L2695-12	CLIENT ID: D	C-SW-1 MS/MSD	• ,	MATRIX: Aqueous
MCAWW, 130.2	04/09/96 16 45	04/16/96	04/16/96	10 17
SAMPLE NUMBER: L2695-13.	· CLIENT ID: L	.c-sw-i	•	MATRIX: Aqueous
MCAWW, 415.1	04/10/96 11 00	04/16/96	04/16/96	09 25
SAMPLE NUMBER: 1.2695-14	CLIENT ID: L	.C-\$W-1		MATRIX: Aqueous
MCAWW, 130 2	04/10/96 11 00	04/16/96	04/16/96	10:17
SAMPLE NUMBER: L2695-15	CLIENT ID: D	il-sw-1 ms/msd	**	MATRIX: Aqueous .
MCAWW, 130.2	04/10/96 10:20	04/16/96	04/16/96	10 17
SAMPLE NUMBER: L2695-16	CLIENT ID: D	L-SW-3		MATRIX: Aqueous
MCAWW, 130 2	04/09/96 17 20	04/16/96	04/16/96	10 17
SAMPLE NUMBER: L2695-17	CLIENT ID; D	L-SW-L	<b>-</b> , ,	.MATRIX: Aqueous
MCAWW, 415.1	04/10/96 10.20	04/16/96	04/16/96	09·25
SAMPLE NUMBER: L2695-18	CLIENT ID: D	L-SW-I	, ,	MATRIX: Aqueous
MCAWW, 130.2	04/10/96 10:20	04/16/96	04/16/96	10 17
SAMPLE NUMBER: L2695-19	- CLIENT ID: D	L-SW-1	- e	MATRIX: Aqueous
MCAWW, 415 1	04/10/96 10:20	04/16/96	04/16/96	09 25
SAMPLE NUMBER: 12695-20	CLIENT ID: D	L-SW-4		MATRIX: Aqueous
MCAWW, 130.2	04/09/96 16 45	04/16/96	04/16/96	10:17
SAMPLE NUMBER: L2695-21	CLIENT ID: D	L-SW-2		MATRIX: Aqueous
MCAWW, 130.2	04/09/96 18.20	04/16/96	04/16/96	10·17
SAMPLE NUMBER: L2695-22	CLIENT ID: D	L-SW-4	2 ×	MATRIX: Aqueous
MCAWW, 415.1	04/09/96 16 45	04/16/96	04/16/96	09 25
SAMPLE NUMBER: L2695-23	CLIENT ID: D	L-SW-3		MATRIX: Aqueous

## : DATE AND TIME SUMMARY

Company Name: URS Consultants Project: DURANGO CU

HydroLogic Login Number: L2695

METHOD	COLLECTED	PREPARED	ANALYZED
MCAWW, 415.1	04/09/96 17.20	04/16/96	04/16/96 09 25
SAMPLE NUMBER: L2695-24	CLIENT ID: E	DL-SW-2	MATRIX: Aqueous
MCAWW, 415 1	04/09/96 18:20	04/16/96	04/16/96 09 25
SAMPLE NUMBER: L2695-25	CLIENT ID: 1	L-SW-5	MATRIX: Aqueous
MCAWW, 415 1	04/09/96 16 45	04/16/96	04/16/96 09 25
SAMPLE NUMBER: L2695-26	CLIENT ID: D	DL-SW-5	MATRIX: Aqueous
MCAWW, 130.2	04/09/96 16 45	04/16/96	04/16/96 10:17

FINAL RESULTS

Form 1 - Data Summary Report Prepared By: HydroLogic Laboratories, Inc.

Client ID:

DL-SW-1 MS/MSD

Project Number:

**DURANGO CU** 

Sample 10:

L2695-15

Site / Project [D:

Not Reported R3540

Run ID: Collection Date:

10-APR-96

Received Date:

12-APR-96 .

Report Date:

17-APR-96

Analyte

Dit Sample Conc. CAS No.

Units

Qual

MCAWW, Method 130.2

Analysis Date: 16-APR-96 10:17

Workgroup Number: WG6208

Hardness

N/A

157-

mg/L

1.7

MDL

2

Report Approved By: Ty Garber

Review By: Bob Cathel

- U = Analyte Not Detected above the Method Detection Limit

MDL

⁻ J = Estimated Concentration, B = Analyte Detected in the Blank

⁻ E = Analyte Conc. is above the Method Calibration Range

Dil - Sample Dilution Factor .

ND - Sample Concentration Not Detected above MDL

⁻ Method Detection Limit

RL - Method Reporting Limit

Form 1 - Data Summary Report Prepared By: HydroLogic Laboratories, Inc.

Client ID:

DL-SW-1

Project Number:

Sample ID.

DURANGO CU L2695-18

Site / Project ID: Not Reported

Run 10:

R3540

Collection Date:

10-APR-96

Received Date:

12-APR-96

Report Date:

17-APR-96

MCAWW, Method 130.2

Analysis Date: 16-APR-96 10:17

Workgroup Number: WG6208

Hardness

Analyce

CAS No.

Oil

Sample Conc.

Units

MOL

RL

N/A

159 - 1

mg/L

2

Report Approved By: Ty Garber

· U = Analyte Not Detected above the Method Detection Limit Qual

Review By: Bob Cathel

Dil

MDL

⁻ J = Estimated Concentration, B = Analyte Detected in the Blank

⁻ E = Analyte Conc. is above the Method Calibration Range

⁻ Sample Dilution Factor

ND - Sample Concentration Not Detected above MDL

⁻ Method Detection Limit

⁻ Method Reporting Limit

Prepared By: HydroLogic Laboratories, Inc.

' Client 10:

DL-SW-1

Project Number:

DURANGO CU

Sample (D:

L2695-17

Site / Project ID:

CAS No.

Not Reported

Run ID:

R3539

Collection Date:

10-APR-96 12-APR-96

Received Date:

12 /10 /10

Sample Conc.

Report Date:

17-APR-96

Analyte

-----

MCAWW, Method 415 1
Analysis Date: 16-APR-96 09:25

Workgroup Number: WG6204 Total Organic Carbon

N/A

Ori

2

mg/L

Units

Qual

.15.

MDL

- 12

Review By. Bob Cathel

Report Approved By: Ty Garber

ual - U = Analyte Not Detected above the Method Detection Limit

- J = Estimated Concentration, B = Analyte Detected in the Blank

• E = Analyte Conc. is above the Method Calibration Range

Dil - Sample Dilution factor

NO - Sample Concentration Not Detected above MDL

MDL - Method Detection Limit

L - Method Reporting Limit

J Form 1 - Data Summary Report
Prepared By: HydroLogic Laboratories, Inc.

CAS No.

Client ID: DL-SW-1

Project Number: DURANGO CU

Sample ID: L2695-19

Site / Project ID: Not Reported

Run ID: R3539

Collection Date:

10-APR-96

Received Date: 12-

Dil

12-APR-96

Sample Conc.

Units

Qual

MDL

RL

Report Date:

17-APR-96

-					1		
	!						
MCAWW, Method 415.1	,						
Analysis Date: 16-APR-96 09:	25						
Workgroup Number: WG6204	1						
Total Organic Carbon	<u>.</u>	N/A	1	2.8	mg/L	. 15	1

Review By: Bob Cathel

Analyte

Report Approved By: Ty Garber

Dual - U = Analyte Not Detected above the Method Detection Limit
- J = Estimated Concentration, B = Analyte Detected in the Blank

E = Analyte Conc. is above the Method Calibration Range
 Sample Dilution Factor

ND - Sample Concentration Not Detected above MDL

MDL - Method Detection Limit

RE - Method Reporting Limit

Dil

; Form 1 - Data Summary Report Prepared By: HydroLogic Laboratories, Inc. ~

> Client ID: LC-SW-1

DURANGO CU Project Number:

> Sample ID: L2695-14

Not Reported Site / Project ID:

Run ID: R3540

10-APR-96 Collection Date:

12-APR-96 Received Date:

17-APR-96 . Report Date:

Anatyte	the state	DIE Sample Colle.	Unites 40	aat not	n c
MCAWN, Method 130.2		, *		•	
- 1		•			,
Analysis Date: 16-APR-96 10:17		•	•		

Allatysis Dece. 10	MIN JO IV				•	•
Workgroup Number:	WG6208	1			* 1	
Hardness	•	1	N/A	1	241	mg/L
		,				

Review By: Bob Cathel

Report Approved By: Ty Garber

Qual	- U = Analyte Not Detected above the Method Detection Limit
	- J = Estimated Concentration, B = Analyte Detected in the Blank
	- E = Analyte Conc. is above the Method Calibration Range
Dil	- Sample Dilution Factor
ND	- Sample Concentration Not Detected above MDL
MDL	- Method Detection Limit
RL	• Method Reporting Limit

1 Form 1 - Data Summary Report Prepared By HydroLogic Laboratories, Inc.

Client [D: LC-SW-1

Project Number: DURANGO" CU

> Sample ID: L2695-13

Site / Project ID: Not Reported

> R3539 Run ID.

Collection Date: 10-APR-96

Received Date: 12-APR-96 Report Date 17-APR-96

Analyte CAS No. Sample Conc. Units Qual HDL

MCAWW, Method 415.1

Analysis Date: 16-APR-96 09:25

Workgroup Number: WG6204

2.5 Total Organic Carbon N/A .15 mg/L

Review By: Bob Cathel

Report Approved By: Ty Garber

- U = Analyte Not Detected above the Method Detection Limit

Dil

⁻ J = Estimated Concentration, B = Analyte Detected in the Blank

⁻ E = Analyte Conc. is above the Method Calibration Range

⁻ Sample Dilution Factor

ND - Sample Concentration Not Detected above MDL

MDL - Method Detection Limit .

⁻ Method Reporting Limit

Form 1 - Data Summary Report Prepared By: Hydrologic Laboratories, Inc.

Client ID:

DL-SW-2

Project Number

DURANGO CU .

Sample ID:

L2695-21

Site / Project ID:

Not Reported

Run 10:

R3540

Collection Date:

09-APR-96

Received Date:

12-APR-96

Report Date:

17-APR-96

71770	٠,			
	_	_	_	_

CAS No.

Dit

Sample Conc.

Units

Qual MOL

MCAWW, Method 130.2

Analysis Date: 16-APR-96 10:17

Workgroup Number: WG6208

184

mg/L

1.7

Hardness

N/A

` 2

Review By. Bob Cathel

Report Approved By: Ty Garber

- U = Analyte Not Detected above the Method Detection Limit

- J = Estimated Concentration, B = Analyte Detected in the Blank

- E = Analyte Conc. is above the Method Calibration Range

Dil - Sample Dilution Factor

ND - Sample Concentration Not Detected above MDL

MOL - Method Detection Limit

- Method Reporting Limit . RL

, Form 1 - Data Summary Report Prepared By: HydroLogic Laboratories, Inc.

Client ID:

DL-SW-2

Project Number:

DURANGO CU

Sample 10:

L2695-24

Site / Project ID:

Not Reported R3539

Run ID: Collection Date:

09-APR-96

Received Date:

12-APR-96

Report Date:

17-APR-96

Analyte

CAS No Dil

Sample Conc.

Units

MOL

MCAWW, Method 415.1

Analysis Date: 16-APR-96 09:25

Workgroup Number: WG6204

Total Organic Carbon

N/A

2 .

mg/L

.15

Review By: Bob Cathel

Report Approved By: Ty Garber

- U = Analyte Not Detected above the Method Detection Limit

- J = Estimated Concentration, B = Analyte Detected in the Blank

- E = Analyte Conc. is above the Method Calibration Range

- Sample Dilution Factor Oit

- Sample Concentration Not Detected above MDL ND

MOL - Method Detection Limit

RL - Method Reporting Limit Form 1 - Data Summary Report

Preparéd By: HydroLogic Laboratories, Inc.

Ctient ID:

DL-SW-3

DURANGO CU Project Number:

Sample 10:

L2695-16

Site / Project ID:

Not Reported

Run 10:

R3540

Collection Date

09-APR-96

Received Date:

CAS No.

12-APR-96

Sample Conc.

Report Date.

17-APR-96

Analyte

Dit

Units

Qual

MDE-

RL

MCAWW, Method 130.2

Analysis Date: 16-APR-96 10:17

Workgroup Number: WG6208

Hardness

N/A

186

mg/L

1.7

2

ì

Review By. Bob Cathel

Report Approved By: Ty Garber

- U = Analyte Not Detected above the Method Detection Limit

- J = Estimated Concentration, 8 = Analyte Detected in the Blank

- E = Analyte Conc. is above the Method Calibration Range

Dil - Sample Dilution Factor

- Sample Concentration Not Detected above MDL ND

MOL - Method Detection Limit

RL . Method Reporting Limit

Form 1 - Data Summary Report Prepared By: Hydrologic Laboratories, Inc.

Cirent ID:

DL-SW-3

Project Number:

DURANGO CU

Sample ID:

L2695-23

Site / Project ID:

CAS No.

Not Reported

Run ID:

R3539 . 09-APR-96

Collection Date:

12-APR-96

Received Date:

Sample Conc.

Report Date:

17-APR-96

MCAWW, Method 415.1

Analyte

Analysis Date: 16-APR-96 09:25

Workgroup Number: WG6204

Total Organic Carbon

N/A

Dit

1.7

mg/L

Units

MDL

.15

Review By: Bob Cathel

Report Approved By: Ty Garber

- U = Analyte Not Detected above the Method Detection Limit

- J = Estimated Concentration, 8 = Analyte Detected in the Blank

- E = Analyte Conc. is above the Method Calibration Range

Dit - Sample Dilution Factor

NO - Sample Concentration Not Detected above MDL

MDL - Method Detection Limit

- Method Reporting Limit

Form 1 - Data Summary Report Prepared By: HydroLogic Laboratories, Inc.

> Client 10. DL-SW-4

Project Number: DURANGO CU

Sample ID

L2695-20

Site / Project ID. Not Reported

Run 10:

R3540

Dil

Collection Date:

09-APR-96 12-APR-96

Received Date:

Sample Conc.

Report Date:

17-APR-96

MCAWW, Method 130.2

Analysis Date: 16-APR-96 10:17

Workgroup Number: WG6208

Hardness

Analyte

N/A

CAS No.

192

mg/L

Units

1.7

MOL

Qual

RL

Review By: Bob Cathel

Dil

MOL

Report Approved By: Ty Garber

• U = Analyte Not Detected above the Method Detection Limit Qual

⁻ J = Estimated Concentration, 8 = Analyte Detected in the Blank

⁻ E = Analyte Conc. is above the Method Calibration Range

⁻ Sample Dilution Factor

⁻ Sample Concentration Not Detected above MDL ND

⁻ Method Detection Limit

⁻ Method Reporting Limit

1 Form 1 - Data Summary Report

Prepared By: HydroLogic Laboratories, Inc.

Client ID:

DL-SW-4

Project Number: DURANGO CU

Sample 10:

Run ID:

L2695-22 Not Reported:

Site / Project ID:

R3539

Collection Date:

09-APR-96

Received Date:

12-APR-96

Sample Conc.

Report Date:

17-APR-96

MCAWN, Method 415.1

Analyte

Analysis Date: 16-APR-96 09:25

Workgroup Number: WG6204

Total Organic Carbon

N/A

CAS No.

Dil

2

mg/L

Units

Qual

.15

MDL

RL

Review By- Bob Cathel

Dil

Report Approved By: Ty Garber

- U = Analyte Not Detected above the Method Detection Limit - J = Estimated Concentration, 8 = Analyte Detected in the Blank

- E = Analyte Conc. is above the Method Calibration Range - Sample Dilution Factor

NO - Sample Concentration Not Detected above MDL

MDL - Method Detection Limit RL - Method Reporting Limit

ED_000552_00024206-00161

Form 1 - Data Summary Report Prepared By: Hydrologic Laboratories, Inc.

Client ID:

DL-SW-5

Project Number: DURANGO CU

Sample ID:

L2695-25

Not Reported Site / Project ID:

R3539 Run ID:

Collection Date.

09-APR-96 12-APR-96

Received Date:

Report Date:

17-APR-96

Analyte

CAS No.

Oil

Sample Conc.

Units

Qual

MCAWW, Method 415.1

Analysis Date: 16-APR-96 09:25

Workgroup Number: WG6204

Total Organic Carbon

N/A

3.8

mg/L

.15

Review By: Bob Cathel

Report Approved By: Ty Garber

- U = Analyte Not Detected above the Method Detection Limit

· Sample Concentration Not Detected above MDL ND

MDL - Method Detection Limit

- Method Reporting Limit RL

Dil

⁻ J = Estimated Concentration, 8 = Analyte Detected in the Blank

⁻ E = Analyte Conc. is above the Method Calibration Range

⁻ Sample Dilution Factor

, Form 1 - Data Summary Report
Prepared By: AydroLogic Laboratories, Inc.

Client (D:

DL-SW-5

Project Number

DURANGO CU

Sample ID:

L2695-26

Site / Project 10:

CAS No.

Not Reported

Run ID:

R3540

Collection Date:

09-APR-96

Received Date:

17-APR-96

Sample Conc.

Report Date:

Units

Qual MDL

RL

2

HCAWW, Method 130.2

Analysis Date: 16-APR-96 10:17

Workgroup Number: WG6208

Hardness

Analyte

N/A

•

Oil

188

mg/L

1.7

Review By: Bob Cathel

Report Approved By: Ty Garber

Qual - U = Analyte Not Detected above the Method Detection Limit

- J = Estimated Concentration, B = Analyte Detected in the Blank

* E = Analyte Conc. is above the Method Calibration Range

Dil - Sample Dilution Factor

ND · Sample Concentration Not Detected above MDL

MDL - Method Detection Limit

RL - Method Reporting Limit

QC DATA PACKAGE 'Form 1 - Data Summary Report
Prepared By: HydroLogic Laboratories, Inc.

CAS No.

Client ID: Method Blank

Project Number: Not Reported

Sample ID: WG6208-1

Site / Project ID: Not Reported

Run ID: R3540

Collection Date: Not Reported

Received Date: 16-APR-96.

Report Date: 17-APR-96

Dil

	į					8 6	
MCAWN, Hethod 130.2	•	•	•				
Analysis Date: 16-APR-96	10:17			'		* * .	
Workgroup Number: WG6208	! -					~	
Hardness	¥	N/A	1	ND mg/L	U	1.7	2

Sample Conc.

Units

Quat

MDE

RL

Review By: Bob Cathel

Analyte

Report Approved By: Ty Garber

lual - U = Analyte Not Detected above the Method Detection Limit

⁻ J = Estimated Concentration, B = Analyte Detected in the Blank

⁻ E = Analyte Conc. is above the Method Calibration Range

Dil - Sample Dilution Factor

ND - Sample Concentration Not Detected above MDL

MDL - Method Detection Limit

RL - Method Reporting Limit

Form 1 - Data Summary Report Prepared By: HydroLogic Laboratories, Inc.

Client ID:

Method Blank

Project Number:

Not Reported

Sample (D:

WG6211-1

Site / Project ID:

N/A

Not Reported

Run 10:

R3540

Collection Date: Not Reported

Received Date:

16-APR-96

Report Date:

17-APR-96 "

Standard Method 314A Analysis Date: 16-APR-96 10:17 Workgroup Number: WG6211 Kardness

Analyte

CAS No.

Dit

Sample Conc.

Units

Qual

RŁ

2

Review By: Bob Cathel

Report Approved By: Ty Garber

- U = Analyte Not Detected above the Method Detection Limit Qual

- J = Estimated Concentration, B = Analyte Detected in the Blank

- E = Analyte Conc. is above the Method Calibration Range

Dit - Sample Dilution Factor

ND - Sample Concentration Not Detected above MDL

MOL - Method Detection Limit

RL - Method Reporting Limit Form 1 - Data Summary Report
Prepared By: HydroLogic Laboratories, Inc.

Client ID: M

Run 1D:

Method Blank Not Reported

Project Number:

Sample ID: WG6204-1

Site / Project ID:

Not Reported R3539

Collection Date:

Received Date:

Not Reported

cceived pace.

16-APR-96

Sample Conc.

Report Date:

17-APR-96

CAS No.

Dil

Units

Qual

.

......

Analyte

MCAWW, Method 415.1 : : : Analysis Date: 16-APR-96 09:25

Workgroup Number: WG6204

Total Organic Carbon

N/A

1

un

ma/L.

ī

.15

MOL

Review By: Bob Cathel

Report Approved By: Ty Garber

Qual - U = Analyte Not Detected above the Method Detection Limit

⁻ J = Estimated Concentration, B = Analyte Detected in the Blank

⁻ E = Analyte Conc. is above the Method Calibration Range

Dil - Sample Dilution Factor

ND - Sample Concentration Not Detected above MDL

MDL - Method Detection Limit

RL - Method Reporting Limit

Laboratory Control Spike / Laboratory Control Spike Duplicate QC Report Prepared By: HydroLogic Laboratories, Inc.

Sample Id: LCS/LCSD Pair Work Group Id: WG6208-2 Run Ld: R3540

GALP Record Id: Not Reported

Preparation Date: 16-APR-96 Analysis Date: 16-APR-96

Report Date: 17-APR-96

Anatyte	LAS AU.	LOW LIMIT	nigh Limit	KPU LIMIT	FF2 WOO	LCSD AGG	units	LCS AREC	LCSD XREC	ECS/ECSD RPD	QUAL (1)
MCAWW, Method 130.2 Analysis Date: 16-APR-96 10:17 Workgroup Number: WG6208			•							-	
Workgroup_Number: _ WG6208 	N/A	80	120	50	311	311	mg/L	97	91	6	***

Note: Technical Review By: Bob Cathel

- Not Reported

Note:

Report Approved By: Ty Garber

(1) QUAL

- * = LCS Outside Control Limits; # = LCSO Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside Control Limits; D = RPD Outside C

Laboratory Control Spike / Laboratory Control Spike Duplicate QC Report
Prepared By: Hydrologic Laboratories, Inc.

Sample Id: LCS/LCSD Pair Work Group Id: WG6211-2 Run Id: R3540 GALP Record Id: Not Reported Preparation Date: 16-APR-96 Analysis Date: 16-APR-96 Report Date: 17-APR-96

Analyte CAS No. Low Limit High Limit - RPD Limit LCS Add LCSD Add Units LCS XREC LCSO XREC LC\$/LCSD RPO QUAL (1) Standard Method 314A Analysis Date: 16-APR-96 10:17 ' Workgroup Number: WG6211 | Hardness N/A 311 311 120 20

> Note: .Technical Review By: Bob Cathel

Note: Report Approved By: Ty Garber

(1) QUAL - * = LC\$ Outside Control Limits; # = LC\$D Outside Control Limits; a = RPD Outside Control Limits; '-' = Value Within Control Limits

"Limits" - The "Limits" reported above (Low, High and RPD) are in units of percent (%).

"LC\$, SD Add" - The conc. of analyte added to the LC\$ or LC\$D sample.

"LC\$ XREC" - Laboratory Control Sample Percent Recovery

"LC\$D XREC" - Laboratory Control Sample Duplicate Percent Recovery

"LC\$CLC\$D RPD" - Laboratory Control Sample / Laboratory Control Sample Duplicate Relative Percent Difference

NR - Not Reported

## Laboratory Control Spike / Laboratory Control Spike Duplicate QC Report Prepared By: HydroLogic Laboratories, Inc.

Sample Id: LCS/LCSD Pair Work Group Id: MG6204-2 Run Id: R3539 GALP Record Id: Not Reported Preparation Date: 16-APR-96 Analysis Date: 16-APR-96

Report Date: 17-APR-96

Analyte	CAS No.	Low Limit	High Limit R	PD Limit	LCS Add	LCSO Add	Units	LCS XREC	LCSD TREC	LCS/LCSD RPD	QUAL (1)
MCAWW, Method 415.1 Analysis Date: 16-APR-96 09:25 Workgroup Number: WG6204 Total Organic Carbon	Ĥ/A	80	120	20	43.2	43.2	mg/L	99	99	0	

Hote: Technical Review By: Bob Cathel Note:

Report Approved By: Ty Garber

(1) QUAL

- * = LCS Qutside Control Limits; # = LCSD Qutside Control Limits; 0 = RPD Qutside Control Limits; 1-1 = Value Within Control Limits

"Limits"

- The "Limits" reported above (Low, High and RPD) are in units of percent (%).

- The conc. of analyte added to the LCS or LCSD sample.

- Laboratory Control Sample Percent Recovery

- Laboratory Control Sample Duplicate Percent Recovery

- Laboratory Control Sample / Laboratory Control Sample Duplicate Relative Percent Difference

- Not Reported

#### Matrix Spike / Matrix Spike Duplicate QC Report Prepared By: HydroLogic Laboratories, Inc.

Client Id: Not Reported
Work Group Id: WG6204-5
Run Id: R3539
GALP Record Id: Not Reported

Sample Conc

MS XREC

MSD XREC

MS/MSD RPD

QUAL (1)

GALP Record 1d: Not Report Preparation Date: 16-APR-96 Analysis Date: 16-APR-96 Report Date: 17-APR-96

1	<del>-</del>									 ***********			
MCAWN, Method 415.1						,							
Analysis Date: 16-APR-96 09:25					•							•	
Workgroup Number: WG6204													
	ł/A	75	125 **	20	16	16 *	mg/L	2.2	100	 101	1		
	,										•		

Low Limit High Limit RPD Limit MS Add MSD Add Units

Note: Technical Review By: Bob Cathel Note: Report Approved By: Ty Garber

(1) QUAL * * = MS Outside Control Limits; # = MSD Outside Control Limits; @ = RPD Outside Control Limits; '-' = Value Within Control Limits (1) QUAL -! = The sample concentration is greater than two times the MS or MSD spike conc. High analyte conc. will effect the MS/MSD recoveries. "Limits" The "Limits" reported above (Low, High and RPD) are in units of percent (%). "MS, MSD Add" - The conc. of analyte added to the MS or MSD sample (soil results are corrected for % moisture). "Sample Conc" - The units are the same as those reported on the Form 1 Data Summary Report (soil results are corrected for % moisture). "MS XREC" - Matrix Spike Percent Recovery "MSD XREC" - Matrix Spike Duplicate Percent Recovery "MS/MSD RPD" - Matrix Spike / Matrix Spike Duplicate Relative Percent Difference NR - Not Reported ND - Analyte "Not Detected" above the method detection limit.

Analyte

Work Group Id: WG6208-4

Run 1d: R3540

GALP Record 1d; Not Reported Preparation Date: 16-APR-96 Analysis Date: 16-APR-96

Analysis Date: 16-APR-96 Report Date: 17-APR-96

Analyte CAS No. Sample Conc REP Conc Units RPD

MCAWN, Method 130.2

Analysis Date: 16-APR-96 10:17

Workgroup Number: WG6208

Note:

Technical Review By: Bob Cathel

Note:

Report Approved By: Ty Garber

Note

Only analytes with concentrations above the method detection limit are reported above. Samples will be reported above without any
analyte concentrations. For these samples, analytes were not detected in the sample or in the sample replicate.

"Sample Conc" - 1

- The sample concentration.

"REP Conc"

- The replicate sample concentration.

"RPD"

- Relative percent difference

"MD"

- Not Detected

WG6208-5 Work Group Id: R3540 Run 1d: GALP Record Id: Not Reported 16-APR-96 Preparation Date:

16-APR-96 Analysis Date: 17-APR-96 Report Date:

Analyte CAS No. Sample Conc REP Conc RPD Units

MCAWN, Method 130.2

Analysis Date: 16-APR-96 10:17

Workgroup Number: WG6208

157 N/A 165 mg/L Hardness

> Note: Technical Review By: Bob Cathel

Note:

Report Approved By: Ty Garber

- Only analytes with concentrations above the method detection limit are reported above. Samples will be reported above without any analyte concentrations. For these samples, analytes were not detected in the sample or in the sample replicate.

"Sample Conc"

- The sample concentration.

"REP Conc"

- The replicate sample concentration.

"RPD"

Note

- Relative percent difference

יי סאיי

Work Group Id: WG6211-4 Run Id: R3540 GALP Record Id: Not Reported

16-APR-96 Preparation Date: Analysis Date: 16-APR-96

Report Date: 17-APR-96

REP Conc Analyte CAS No. Sample Conc Units RPD .

Standard Method 314A

Analysis Date: 16-APR-96 10:17

Workgroup Number: WG6211

186 N/A Hardness mg/L

Technical Review By: Bob Cathel

Note:

Report Approved By: Ty Garber

Note

- Only analytes with concentrations above the method detection limit are reported above. Samples will be reported above without any analyte concentrations. For these samples, analytes were not detected in the sample or in the sample replicate.

"Sample Conc"

- The sample concentration.

"REP Conc"

. The replicate sample concentration.

"RPD" "אס"

- Relative percent difference

· Not Detected

WG6204-4 Work Group 1d:

Run 1d:

R3539 GALP Record 1d: Not Reported

Preparation Date: 16-APR-96

Analysis Date: 16-APR-96 Report Date: 17-APR-96

CAS No. Sample Conc REP Conc Analyte Units - RPD

MCAWN, Method 415.1

Analysis Date: 16-APR-96 09:25

Workgroup Number: WG6204

N/A 2.2 Total Organic Carbon mg/L 10

> Note: Technical Review By: Bob Cathel

Note:

Report Approved By: Ty Garber

Note

- Only analytes with concentrations above the method detection limit are reported above. Samples will be reported above without any analyte concentrations. For these samples, analytes were not detected in the sample or in the sample replicate.

"Sample Conc"

- The sample concentration.

"REP Conc" "RPD"

- The replicate sample concentration.

"NO"

- Relative percent difference

- Not Detected

## APPENDIX B

Photolog

# Color Photo(s)

The following pages contain color that does not appear in the scanned images.

To view the actual images, please contact the Superfund Records Center at (303) 312-6473.

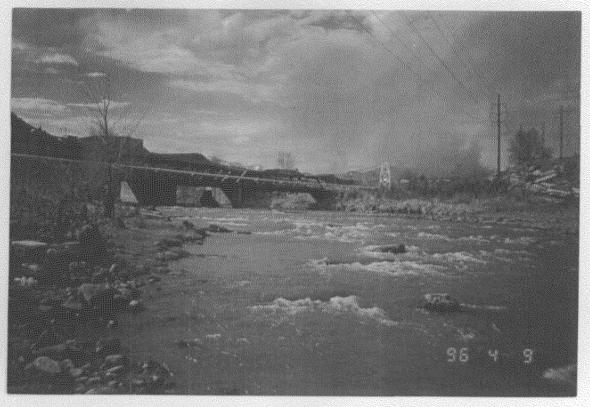


PHOTO 1

Looking upstream on the Animas River at Durango Lead Smelter sample location DL-SW/SE-4 (and DL-SW-5 duplicate). Note Santa Rita Bridge in background.

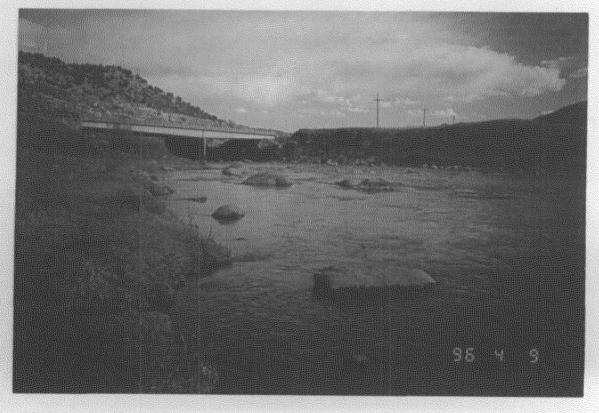


PHOTO 2

Photo of sample location DL-SW/SE-3 with the Santa Rita Bridge (Highway 550/160) in the background. Samples were collected at the west edge of Durango City Park (Gateway Park).

75-60201.00 \START\Durango\Final-Pb.ARR\Photolog:rsb

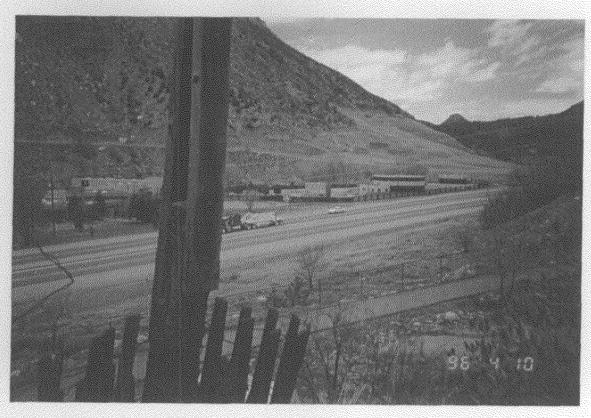


PHOTO 7 Photo taken from soil sample location DL-SO-2 facing the Durango Lead Smelter site beyond the waste treatment plant. Sample location at Trailer #8 at the trailer park.



рното 8

Photo taken from the location of soil sample DL-SO-3 facing the Durango Lead Smelter site across the Animas River.

75-60201.00 \START\Durango\Final-Pb.ARR\Photolog:rsb



PHOTO 5

Photo of the location of sample LC-SW/SE-1 collected on the east bank of Lightner Creek upstream of the confluence with the Animas River. The bridge carries Highway 160 over Lightner Creek.



РНОТО 6

View of the Potter residence from the location of soil sample DL-SO-1.

75-60201.00 \START\Durango\Final-Pb.ARR\Photolog:rsb



PHOTO 3

Photo of M. Rudolph (UOS) collecting PPE sample (DL-SW/SE-2) at the location of the former lead smelter on the west bank of the Animas River.



PHOTO 4

Photo taken facing south of sample location DL-SW/SE-1.

Roosa Avenue is in the right frame; Red Lion Inn is in left frame.

75-60201.00 \START\Durango\Final-Pb.ARR\Photolog:rsb

# APPENDIX C

Site Inspection Data Summary

### TABLE AIR-1: SUMMARY OF ANALYTICAL RESULTS FOR AIR PATHWAY

SAMPLE ID & DATE	SAMPLE TYPE	DISTANCE FROM SITE (MILES)	TARGET(8) WITHIN DISTANCE CATEGORY	HAZARDOUS SUBSTANCE	CONCENTRATION (SPECIFY UNITS)	DETECTION LIMIT	PEFERENCES
			☐ Number of people ☐ Name of sens, environment	,			
		·	☐ Wotland acreage	·			· · ·
			C) Number of people C) Name of sons, environment	. •			
,			☐ Welfand acreage	· ·	(		,
		,	☐ Number of people				
			☐ Number of people ☐ Name of sens. environment ☐ Welland acreage ☐				
	·		☐ Number of people ☐ Name of sens, environment		1		
			☐ Wotland acreage ☐ Number of people ☐ Name of sens. environment			<del>/ · · · · ·</del>	
			☐ Wetland acreage ☐ Number of people ☐ Name of sens, environment			:	
			☐ Weifand acreage		1	1	

		-
Q1	Data	Summary
•		

Site	Name	DL

AIR	IN	FO	RM	ΔΤ	ION
	1141		LU INT		-

1. Is air contamination present at the site?	
☐ Yes ☐ No ☐ Uncertain but likely ☑ U ☐ Additional sampling required	Incertain but not likely
Is analytical evidence available?   ☐ Yes	No Reference(s) <u>DOE 1995</u> , UOS 18
2. Is air contamination attributable to the sit	te? red NA
3. Are populations, sensitive environmen substances released from the site?  ☐ Yes ☐ No ☐ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑ Uncertain but likely ☑	incertain but not likely
Is analytical evidence available?   ☐ Yes )	No Reference(s) 1/65 19960
4. Evidence of blogas release from any of the Below-ground containers or tanks  Reference(s)	andfill   Buried surface impoundment
5.* Particulate migration potential factor valu	e: (HRS Figure 6-2)
6.* Particulate mobility factor value:	(HRS Figure 6-3)
7 Distance from any incompletely contains	d source to nearest residence or regularly occupied
area: 0.25 miles Reference(s)	1105 (496 c)
B. Population within 4 miles of site sources.	
DISTANCE FROM SITE SOURCES	POPULATION
0 (within site sources)	0
1/4 mile or less	1,036
>1/4 to 1/2 mile	1,030
>1/2 to 1 mile	2.071
>1 to 2 miles	4.143
>2 to 3 miles	4, 143
>3 to 4 miles	0
Reference(s) <u>USDOC 199</u>	<i>o.</i>
Resources within ½ mile of site sources (     □ Commercial agriculture     □ Commercial silviculture     ☑ Major or designated recreation area	
Reference(s) CDow 1990	

~ .	A-4-	A
~ 1	1)812	Summary
~:		~~::::::::::::::::::::::::::::::::::::

Site Name	DU
Site Name	

10. Sensitive environments and wetlands within 4 miles of the site.

NAME/DESCRIPTION/LOCATION OF SENSITIVE ENVIRONMENT OR WETLAND	DISTANCE FROM SITE (MILES)	TYPE OF SENSITIVE ENVIRONMENT	WETLAND SIZE (ACRES)	
NWI maps not avail	ble			
			•	
			######################################	
		·		

Reference(s)	*	
11616161106(3)		· · · · · · · · · · · · · · · · · · ·
	•	

11. Using Table Air-1, summarize air analytical results for all sampling investigations. Include and identify background sample results.

## TABLE SE-1: ANALYTICAL RESULTS FOR SOIL EXPOSURE PATHWAY

ROTER TO ARR TABLE 6

SAMPLE ID & DATE	SAMPLE DEPTH	TYPE OF PROPERTY	POPULATION	HAZARDOUS SUBSTANCE	CONCENTRATION (SPECIFY-UNITS)	DETECTION LIMIT	REFERENCES
		☐ Residence ☐ School ☐ Daycaro center ☐ Workplace	·				
		☐ Residence ☐ School ☐ Daycare center ☐ Workplace ☐					
		☐ Residence ☐ School ☐ Daycare center ☐ Workelace	-			τ.	
	L	☐ Residence ☐ School ☐ Daycare center ☐ Workplace					
	•	☐ Residence ☐ School ☐ Daycare center ☐ Workplace					
		☐ Residence ☐ School ☐ Daycare center ☐ Workelace				·	-
	•	☐ Residence ☐ School ☐ Daycare center ☐ Workplace					
·		☐ Rosidonce ☐ School ☐ Daycaro center ☐ Workplace					-

TABLE SE-2: ANALYTICAL RESULTS FOR SOIL EXPOSURE PATHWAY

PEFER TO
ARR
TABLE 455

SAMPLE ID & DATE	SAMPLE DEPTH	TYPE OF TARGET	HAZARDOUS SUBSTANCE	CONCENTRATION (SPECIFY UNITS)	DETECTION LIMIT	REFERENCES
	•	☐ Terrostrial sensitive environment.				
		☐ Rosourcos* ☐ Commorcial agriculture ☐ Commorcial silviculture ☐ Commorcial livestock production or grazing				
		☐ Terrestrial sensitive environment				
	· · ·	☐ Resources* ☐ Commercial agriculture ☐ Commercial silviculture ☐ Commercial livestock production or grazing				
		☐ Yerrostrial sensitive environment				
		☐ Resources* ☐ Commercial agriculture ☐ Commercial silviculture ☐ Commercial livestock				
		☐ Terrestrial sensitive environment				
		☐ Resources* ☐ Commercial agriculture ☐ Commercial silviculture ☐ Commercial livestock production or grazing				

SAMPLE ID	SAMPLE TYPE	SAMPLE OBJECTIVE	TARGET NAME	HAZARDOUS SUBSTANCE	CONCENTRATION (SPECIFY UNITS)	DETECTION UMIT	ПЕРЕПЕНСЕЯ
	C) Aquocus C) Sediment C) Other	☐ Roloase ☐ Fishery ☐ Drinking water ☐ Sensitive environment ☐ Distance from PPE					
· · ·	☐ Aqueous ☐ Sediment ☐ Officer	☐ Release ☐ Fishery ☐ Drinking water ☐ Sensitive environment ☐ Distance from PPE		<u> </u>			·
, 	☐ Aquuotis ☐ Sediment ☐ Other ,	☐ Roloase ☐ Fishery ☐ Drinking water ☐ Sonsitive environment ☐ Stance from PPE					
	□ Aqueous □ Sadment □ Officer	☐ Rolease ☐ Flahery ☐ Drinking water ☐ Sansitive environment ☐ Distance from PPE			*		·
	☐ Aqueous ☐ Sedment ☐ Other	☐ Rolonse ☐ Fishery ☐ Drinking water ☐ Sensitive environment ☐ Distance from PPE					
	☐ Aqueous ☐ Sediment ☐ Other	☐ Rolease ☐ Fishery ☐ Orinking water ☐ Sensitive environment ☐ Distance from PPE					
- 11	C) Other	☐ Roloase ☐ Fishory ☐ Drinking water ☐ Sonsitive environment ☐ Distance from PPE					, .
	C Other	☐ Rolnase ☐ Fishery ☐ Drinking water ☐ Sonsitive environment ☐ Distance from PPE					
	☐ Aquaque ☐ Sediment ☐ Other	☐ Rolease ☐ Fishery ☐ Drinking water ☐ Sonsilive environment Distance from PPE					

÷

Site Name	, _DL
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SOIL INFORMA	TI	O	N	l
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L				
1.	Is surficial or soil contaminatio ☐ Yes ☐ No ☐ Uncertain but if			
	☐ Additional sampling required Is analytical evidence available?	☐ Yes Ø No	Reference(s) <u>DoE (415</u>	
2.	Is surficial or soil contamination  ☐ Yes ☐ No ☐ Additional samp	n attributable to the soling required (Residu	site? intial)	
	is surficial contamination on the center, or workplace?  Yes No Uncertain but iii Additional sampling required	- · · · · · · · · · · · · · · · · · · ·	n 200 feet of a residence, school, da ハイ not likely	iycare
	Is analytical evidence available?	☐ Yes ☐ No	Reference(s)	
, ··	Total area of enviloint agentaming	wien /LIDC Cartion E	3 1 21.	
4.	Total area of surficial contamina		Reference(s) <u>UUS1995</u>	
		*	•	
5. <b>*</b>	Attractiveness/accessibility of the all that apply:	e areas of observed o	contamination (HRS Section 5.2.1.1).	Check
•	☐ Designated recreational area ☐ Used regularly, or accessible ar	nd unique recreational	area	
	☐ Moderately accessible with som			
	☐ Slightly accessible with some us	se		
	☐ Accessible with no use	•		•
	☐ Inaccessible with some use ☐ Inaccessible with no use		•	
•	Maddadallio Will flo dae	•	•	
	Reference(s) 1705	19950		

- Using Table SE-1, summarize analytical results detecting surficial contamination within 200 feet of a residence, school, daycare center, or workplace. Include and identify background sample results.
- 7. Using Table SE-2, summarize analytical results detecting surficial contamination within the boundary of a resource or a terrestrial sensitive environment. Include and identify background sample results if not listed in Table SE-1.
- 8. Population within 1-mile travel distance from site. Do not include populations from Table SE-1.

DISTANCE FROM SITE SOURCES	POPULATION
1/4 mile or tess	1030
>1/4 to 1/2 mile	1.036
>1/2 to 1 mile	2071

Reference(s)

USDOC 1990

Data Summary	· ·		Site	NameD	<u> </u>	_
Describe predomin	nant soll group withi	in the draina	ge area (	HRS Section 4.1.2.1	.2.1.2).	
	Nedium tex	Awed Sir	15		· ·	_
	<u>i</u>					•
Reference(s)	40 CFR, Part	300				_
2-year 24-hour rain	nfall (HRS Section 4.1	1.2.1.2.1.2):		Reference(s)	Dunne & Cope	(11
	ottom of nearest surf above sea level	face water bo	ody:	Reference(s)	V0519960	· •
Elevation of top of ^(+ S(D) feet	uppermost aquifer: above sea level			Reference(s)	UOS 19950	<b>-</b> ,
nearest drinking w A River	of water body betwe ater intake: water intakes, fishe	•	•	Reference(s)	Public Works	<u>-</u> 194
downstream.	•			•		
TARGET NAME/TYP	E WATER BODY TYPE	DISTANCE FROM PPE	FLOW (CFS)	TARGET CHARACTERISTICS	TARGET SAMPLED?	
TARGET NAME/TYP	BODY TYPE		(CFS)	Stocked game Stocked game Specied dativespis	SAMPLED?	•
restions fish	BODY TYPE	FROM PPE	(CFS)	CHARACTERISTICS	SAMPLED?	•
restions fish	BODY TYPE  River	0 - 15,n	(CFS)	Sticke of game Species of native spis (Mento ARR Sec Sui pathway NO NWI maps	SAMPLED?	
"If target is a drinking (pounds per year if target is a wetland	g water intake, provide, provide species and r).	FROM PPE  0 - 15 m  0 - 15 m  e number of p  annual produ	(CFS)	CHARACTERISTICS' Sticke of game Species of native spice (refer to ARR SEC SUI parthuson NU NWI maps While will  rved by intake.X numan food chain or	SAMPLED?  Y  ganisms	
"If target is a drinking (pounds per year tranget is a wetland Reference(s)	River  River  River  g water intake, provide, provide species and r).	FROM PPE  0 - 15 m  0 - 15 m  e number of pannual production and production miles  105 199 6 C	822 822 822 eeople se	CHARACTERISTICS' Sticke of game Species of native spice (refer to APP Sec sui partimon NU NWI mons While with  rved by intake X numan food chain or realculation pages.	SAMPLED?	-ks

5. Describe any st	
	Yould
Reference(s)	Durango Public Works 1996
•	i i i i i i i i i i i i i i i i i i i
*Surface weter m	requireds within 15 miles downstroom /HPS Section 4.1.2.2.31
Surface water re.	esources within 15 miles downstream (HRS Section 4.1.2.3.3): re minimum) of commercial food or commercial forage crops
☐ Commercial liv	estock watering
☐ Commercial liv ☐ Ingredient in or	restock watering ommercial food preparation
☐ Commercial liv ☐ Ingredient in co ☐ Major or design	restock watering ommercial food preparation nated water recreation area, excluding drinking water use
☐ Commercial liv ☐ Ingredient in α ☐ Major or design ☐ Water designat	restock watering ommercial food preparation
☐ Commercial liv ☐ Ingredient in α ☐ Major or design ☐ Water designat	restock watering ommercial food preparation nated water use nated water recreation area, excluding drinking water use ted by the state for drinking water use but is not currently used or drinking water intakes within 15 miles downstream

Include and identify background sample results.

#### TABLE GW-2: ANALYTICAL RESULTS FOR GROUND WATER PATHWAY

SAMPLE ID & DATE	TYPE OF WELL	SCREENED INTERVAL	IIAZARDOUS SUBSTANCE	CONCENTRATION (SPECIFY UNITS)	DETECTION LIMIT	NEFERENCES
	☐ Irrigation ☐ Monitoring ☐ Drinking water People served ☐ Other				/	
·	☐ Irrigation ☐ Monitoring ☐ Drinking water Poople served ☐ Other	·				
*	☐ Irrigation ☐ Monitoring ☐ Drinking water People served ☐ Other					
	☐ Inigation ☐ Monitoring ☐ Drinking water People served ☐ Other					
	☐ Irrigation ☐ Monitoring ☐ Drinking water People served ☐ Other					,
	☐ Infgation ☐ Monitoring ☐ Drinking water People served ☐ Other					
	☐ brigation ☐ Monitoring ☐ Drinking water People served ☐ Other				·	
	☐ Irrigation ☐ Monitoring ☐ Drinking water People served ☐ Other	·				

Site	Name	DL
		<del></del>

### SURFACE WATER INFORMATION

Complete this section of the data summary for each watershed if there are multiple watersheds. Photocopy this page if necessary.

-	Surface water	drains from	the six to the east to the
-	animas River an	d compuses	the extent of the 15-mi
_	downstream tag	•	
	Reference(s) . USGS	19036	
2.	Is surface water contaminate   ☐ Yes ☐ No ☐ Uncertain but analytical evidence available	ut likely. 🗆 Uncertain b	out not likely   Additional sampling required  Reference(s)   ARR def
3.	Is surface water contamination of Yes □ No □ Additional s		Reference(s)
4.	Floodplain category in which		
5.	Describe flood containment	for each source (HRS	Section 4.1.2.1.2.2):
	· ·	·	
	Source #1 Slip pile	_ Flood containment	Buries with backfill
	Source #1 Sly pile  Source #2 NA	•	
		_ Flood containment	Buries with backfill
	Source #2 NA Source #3	_ Flood containment _ Flood containment _ Flood containment	Buries with backfill
	Source #2 NA	_ Flood containment _ Flood containment _ Flood containment	Buries with backfill
	Source #2 NA Source #2	Flood containment Flood containment Flood containment Flood containment	Buries with backfill
	Source #2  Source #2  Source #_	Flood containment Flood containment Flood containment Flood containment Flood containment Flood containment	Buries with backfill
	Source #2  Source #2  Source #2  Source #2	Flood containment Flood containment Flood containment Flood containment Flood containment Flood containment Flood containment	Buries with backfill

7.* Size of drainage area (HRS Section 4.4.3): __

__ Acres

Reference(s) <u>IJSGS 1994</u>

Site Name	DL

#### TABLE GW-1: SITE GEOLOGY

	NAME OF FORMATION :	INTER- CONNECT? (yes/no)	TYPE OF MATERIAL	AVERACIE THICKNESS (FEET)	HYDRAULIC CONDUCTIVITY (CM/SEC)	USED FOR DRINKING WATER?
1.	alluvium	у	Sand 4 gravel	15	7 x 10 3 cm/sed	N
2.	Colluvium	У	poorly sort	25	10 cm/sec	N
1.	Mancos Shale	N	low-pernerbill bedrock	1,700	10 cm/sec	N
4.						· · · · · · · · · · · · · · · · · · ·
5.				· ·		
đ.						

Reference(s)	he reduced Register 1990.
Does a karst aquifer underlie any site source?	
☐ Yes X No	Reference(s) UOS 1995a

- 10. Depth to top of aquifer: ~ 10 feet Elevation: ~ 1510 Reference(s) 105 1995 a
- 11. In the table below, enter the number of people obtaining drinking water from wells located within 4 miles of the site. For each aquifer, attach population calculation sheets. Key aquifer to formations listed in Table GW-1.

#### POPULATION SERVED BY WELLS WITHIN DISTANCE CATERGORIES BY AQUIFER

DISTANCE OF WELL(S) FROM SITE SOURCES	AQUIFER A: INCLUDES FORMATIONS 1. 2. 3	AQUIFER B: INCLUDES FORMATIONS	AQUIFER C: INCLUDES FORMATIONS NA
1/4 mile or less	8		
>1/4 to 1/2 mile	8		
>1/2 to 1 mile 1	8	·	/
>1 to 2 miles	24	/	
>2 to 3 miles	21		
>3 to 4 miles	190		

Reference(s) DOE 1995; State Engineers Office 1996; USDOC 1990

12. Is ground water	from multiple	wells blended prior	to distribution?	_
☐ Yes 為 No	•	•	Reference(s) Drugge	opublic NoKS1991
			7	

9.

SI Data Summary	Site Name
13. Is ground water blended with surface water? ☐ Yes ☒ No	Reference(s) Durango Public Work
Briefly describe: NA	
14. Distance from any incompletely contained source drinking water well (HRS Section 3.3.1): 1,320	
15. Briefly describe standby drinking water weils with	in 4 miles of sources at the site:
None	
Reference(s)	
16. Using Table GW-2, summarize ground water analy include and identify background ground water sample	
<ul> <li>□ Commercial livestock watering</li> <li>□ Ingredient in commercial food preparation</li> <li>□ Supply for commercial aquaculture</li> <li>□ Supply for major or designated water recreation are</li> <li>□ Water usable for drinking water but no drinking water</li> <li>□ None of the above</li> </ul>	
Reference(s) D05 1995	
18. Wellhead protection area (WHPA) within 4 miles of ☐ Source with non-zero containment factor value lies ☐ Observed ground water contamination attributable to ☐ WHPA lies within 4 miles of site sources ☒ None	within or above WHPA
Reference(s)	
Additional ground water pathway description:  Refer to Section 1.7 ;	groundwater Pathway
DEFEA TO SPECION	- juneary
0.45	
References(s) <u>IRR</u>	

			·	٠,						
SI	Data Sumi	mary					Site I	Name	DL	·
5.	Descripti	on of remo	val or	remedial	activities	;		٠.		
	If a remove	the remova	ıl.			-	•			Specify the
		Refer	to	Sec.	3.2:	Site	Hist	orn a	nd A	unbus.
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Reference(s)

are

SI Data Sumn	nary
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Site Name	<b>D</b> L

GROUND WATER INFOR	RMATION
. Ground water drinking water use within 4 miles of site s ☐ Municipal ☐ Private ☐ Both ☑ No Drinking Wate	
Reference(s) Dinango fublic Wo	nks 1990
Is ground water contaminated?  ☑ Yes ☐ No ☐ Uncertain but likely ☐ Uncertain but not ☐ Additional sampling required Is analytical evidence available? ☑ Yes ☐ No	
Is ground water contamination attributable to the site? 점 Yes 디 No 디 Additional sampling required	Reference(s) <u>DOE1995</u>
Are drinking water wells contaminated?  ☐ Yes ☒ No ☐ Uncertain but likely ☐ Uncertain but not ☐ Additional sampling required	-
Is analytical evidence available? Zi Yes ☐ No	Reference(s) <u>DOE 1995</u>
Net precipitation (HRS Section 3.1.2.2): 1.(a) inches	Reference(s) Univ. of Delaw
County average number of persons per residence: 3.5	De Reference(s) <u>USDOC 1990</u>
Discuss general stratigraphy underlying the site. Attach	sketch of stratigraphic column.
Refer to Sec. 3.3.2; Geology	
	•

8. Using Table GW-1 (next-page), summarize geology underlying the site (starting with formation #1 as closest to ground surface). Indicate if formation is interconnected with overlying formation.

SI	Data	Summary

Site	Name	

4. Source characterization (Attach pages to show quantity and calculations.)

	•		2.1	· -	
Source 1 name:  Describe source:  Ground water migr	Slag A	'le		Source type	Pile
Describe source:	residu	ial Slag p	ile; byp	oduct of le	ead sine He
Ground water migr	ation containme	ent:	None		operation
Surface water migration (gas	ation containme	ent: <u>Bu</u>	ried wit	fill dict	and cipra
Air migration (gas a	and migration)	containment:	Buned u	ith fill dir	t. Shi
Physical state of ward constituent quantity Wastestream quant Volume of source (	astes: 🔲 Liqui	id 📆 Solid 🗆	Sludge/Slumy !	I Gas 🔲 Unknow	'n
Hazardous substan		with source 1:	· · · · · · · · · · · · · · · · · · ·		
Reference(s)		999a:0	IRR data		
Source 2 name: _	·		NA	Source type	
Describe source:	· ·		$\rightarrow$		
Ground water migra	ition containme	nt:	<u> </u>		······
Surface water migra	ition containme	ent:			
Air migration (gas a	nd migration) c	ontainment:		······	
Physical staté of wa Constituent quantity Wastestream quant Volume of source ()	of hazardous: ity containing h	substances:	inces:	Gas Unknow	_ (specify units) _ (specify units)
Hazardous substan	ces associated	with source 2:			•
Patarancoic)		· )			•

### SI Data Summary

Site Name	DL	
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### CONTINUATION PAGE FOR SOURCE CHARACTERIZATION

Source #	Name	NA	Source type	
Describe so	urce:		<u> </u>	
Ground water	er migration containm	ent:		· · ·
Surface wat	er migration containm	nent:		······································
Air migration	(gas and migration)	containment:		
Constituent ( Wastestrean	quantity of hazardous	substances: hazardous substances	: Gas Unkn	(specify units)
Hazardous s	ubstances associated	d with source #:		
		· /		
	* * * * * * * * * * * * * * * * * * * *	<del></del>		<del></del>
Reference(s)				
· · · · · · · · · · · · · · · · · · ·			<u></u>	
Source #	_ Name		Source type	
Describe sou	rce:	<del></del>		
Ground wate	r migration containme	ent:		
Surface water	r migration containme	ent:		
Air migration	(gas and migration)	containment:	<u> </u>	······
Constituent of Wastestream	uantity of hazardous quantity containing t	substances:	/Slurry □ Gas □ Unkno	(specify units) (specify units)
Volume of so	urce (yd²):	<del>/</del>	Area of source (ft²):	
Hazardous s	ubstances associated	I with source #:		
· · · · · ·		•		
Reference(s)				

•	ame <u>Durango Lead Sonette</u>
Site Name Durango Lead Smelter (DL)	EPA Region 8 Date 8/90
Contractor Name or State Office and Address URS Open 1099 18th Street, Stute 710, Denver,	cating Services, Inc.
GENERAL SITE INFORMATION	
1. CERCLIS ID No. <u>CO GOO 1399 633</u>	
Address 3E-1/4 S.30, T.35N., R9W. of Quadrangle City	Durango
1 01 1 0 -	Congressional District <u>667</u>
2. Owner name CDPHE Operator name	same.
Owner address 4300 Cherry Creek Dr. S. Operator address	ss
city <u>Denver</u> State <u>CO</u> city	State
3. Type of ownership (check all that apply):  ☐ Private ☐ Federal/Agency	County
4. Approximate size of property:	Reference(s) DOE 1995
5. Latitude 37 • 16 · 03.00 N Longitude 107 • 53 · 00 · 00 · W	Reference(s) USGS 1963B
6. Site status: ☐ Active ▼ Inactive ☐ Unknown	Reference(s) Smu th 1980
7. Years of operation: From: 1882 to: 1935  Unknown	Reference(s) Smith 1980
8. Previous investigations:	
Type Agency/State/Contractor Date	
PA DPA/ VOS 3/910	Reference(s) <u>VOS 1996</u> 6
SIFER EPA UDS 4/96	Reference(s) <u>Vas 1990</u> a
	Reference(s)
	Reference(s)
	Reference(s)
	Reference(s)

TI THE THINKING I	SI	Data	Summary
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### WASTE SOURCE INFORMATION

1.	Waste source types (check all that apply)
••	□ Constituent □ Wastestream (type) □ Landfill □ Drums □ Contaminated soil □ Land treatment
	☐ Tanks or non-drum containers (type)
	Reference(s) CDfHE 1994
2.	Types of wastes (check all that apply)
	☐ Organic chemicals ☐ Inorganic chemicals ☐ Municipal wastes ☐ Radionuclides ☑ Metals ☐ Pesticides/Herbicides ☐ Solvents ☐ Other
	Reference(s) CDPHE 1996; ARR data
3.	Summarize history of waste disposal operations:
	Refer to Sec. 3.2; Site History and Previous Work
,	Reference(s)OLF

# APPENDIX D

Validation Reports and Laboratory Data (under separate cover)